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THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION

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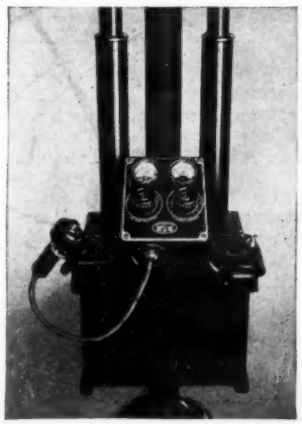

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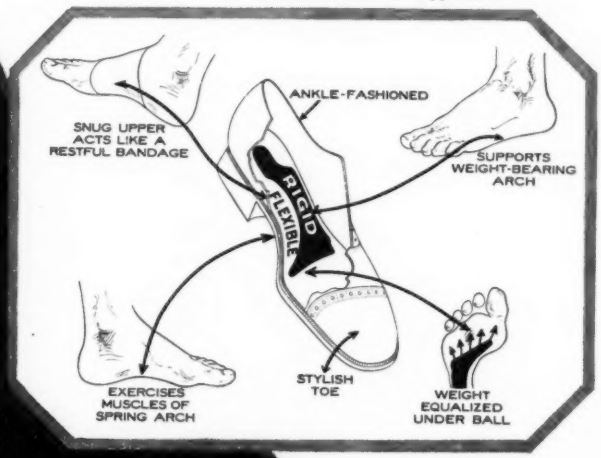

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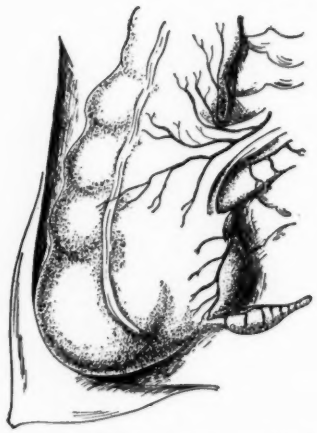

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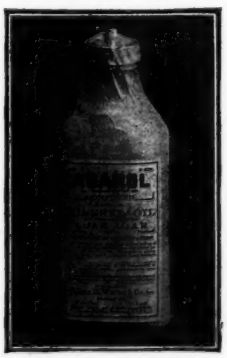

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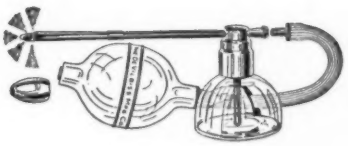

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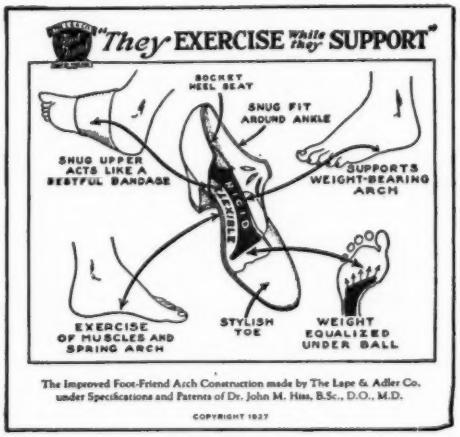
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Studies in Osteopathic Pathology*

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Los Angeles

II.

Connective Tissue and Fascia. The role of connective tissue as a supporting, confining and limiting framework of the muscles is of great importance. The same is true of these tissues in their relation to blood vessels, lymph spaces, ganglia and nerves. It is of particular significance in the physically confined area of the spinal column, owing to the encasement of vital centers. There is comparatively little space for the development of pathological conditions. The effects of repeated slight injuries to the muscular and ligamentous balance is certain to be out of proportion to similar effects in many areas of the body.

The changes that occur in these rather firm but flexible tissues involve their tensile and mobile qualities, which are intimately associated with the nervous and vascular pathology. Dr. Still was of the opinion that the early beginning of many diseases is due to physical and chemical changes in the fascia.

This aspect of the vertebral lesion pathology is very instructive. A loggy, putty-like feel is frequently noted in the connective tissue and small muscles surrounding a lesion. This is due to a localized edema, and is often mistaken for malposition of the bones themselves.

The edema is difficult to note under dissection as the liquid readily escapes. The x-ray plate shows it clearly in both clinical and experimental cases. It is a helpful diagnostic sign.

Associated with the local edema is a local acidosis. This has been found true of all the local edematous areas connected with a vertebral lesion. It is found in the subcutaneous connective tissue and fascia, in the deeper spinal muscles, in the intervertebral disk and in the connective tissue around the intervertebral foramen.

The complex chemical mechanism involved in nerve lesion, edema and acidosis requires considerable elucidation. That there is a distinct upsetting of normal physiological processes is evident. Lessened alkalinity of the fluids through the medium of increased carbonic acid is one aspect of the picture. That this affects the normal action of nerve impulses is known. On the other hand, a nerve lesion is frequently followed by local edema and acidosis. Probably the three conditions are intimately associated in both cause and effect.

It is probable that both acidosis and edema affect nerve trunks and sympathetic ganglia; the one chemically and the other through pressure. Both of these influences impede nerve impulses and normal chemism, causing local vasomotor imbalance and nutritional disturbance. Resistance to acidosis and edema would be greater from the medullated cerebrospinal nerves than from the medullated sympathetic nerve fibers. A transverse sectional area of the medullated tissue is equal to the transverse area of its nerve fiber. The sympathetic nerve fibers which supply the vessels of the cord and its membranes pass through a considerable edematous area, so these are probably deranged earlier than the others. These time period effects are in harmony with clinic findings. The sensory nerves near their end plates are not medullated, which would account, partially at least, for their hypersensitiveness. (Edema is an early pathological change not confined to vertebral pathology. Viscus, glands and other tissues are thus involved.)

Until more is known of chemical pathology it will be impossible to unravel the sequences. The intricacies and complexities of interdependent nerve impulses and circulating fluids, physically and chemically, are without parallel. Suffice it for the present that these pathological facts exist as important links of the chain in the vertebral lesion pathogeny. It exemplifies the scientific and philosophic viewpoint of osteopathy in vivid contrast to that of the chemical hypothesis of other schools, wherein the chemism of the cell is considered supreme. In other words, these chemical changes are effects of structural disability or so-called osteopathic lesions; for no part can be greater than the whole. Although the established chemical changes as a sequel further modify and help to perpetuate structural changes, they do not contain the initiatory forces or beginning elements of the physical disorder. But, when once started, secondary causes and effects are complexly interwoven. In the vertebral lesion, it is the integrated whole that should be kept in mind or else one will be hopelessly lost in the maze. Two distinct guiding points must be kept in view: First, structural perversion compromises nutritive integrity; secondly, the body contains all the attributes of a vital organism.

Within a period of time varying from a few days to several weeks the x-ray plate shows an area, corresponding to that of the edema, of increased density most marked around the edges. This is due to fibrosis. The area is occupied by connective tissue somewhat denser than normal. Acidosis tends to increase fibrous tissue.

*In this article, as in all of the series, free use has been made of the Bulletin Reports of the A. T. Still Research Institute.

Keeping in mind that pathology is a condition, a perverted physiology, wherein are the elements of both destruction and recovery acting at the same time, the fibrosis is probably an attempt to maintain structural integrity, to approach the norm. The balance between destructive forces and healing properties may be a delicate one, depending upon constitutional make-up and environment.

Fibrosis plays a huge role in structural pathology. It is a factor that should not be neglected in either diagnosis or technic. It gives us innumerable invaluable clues. It is the tissue that ultimately makes a lesion chronically immobilized through its effect on muscles, ligaments and disk. First effects of most lesions, structurally interpreted, is that of contraction of muscles through irritated nervous impulses, depending upon repeated disturbance of afferent stimuli associated with actual structural strain. It is on the physical plane of violence. Mobility of tissue is impaired, which in turn still further compromises the afferent stream of impulses and the actual movement of vital fluids. The central physiological mechanism is in the cord, which is also correspondingly nutritiously involved. The pathological derangement here also adds its part in perpetuating the lesion. It is the commanding and controlling importance of the related spinal centers and sympathetic ganglia that makes the vertebral lesion so significant in pathogeny. Consequently, the immobilization of the structurally involved segment through the ultimate fibrotic changes (which in turn act as both effect and cause) of soft tissues, as well as partial disuse and atony of same, are important factors of lesion perpetuation. This is why they give important clues bearing on impaired elasticity, tension and mobility of the segments. Testing out the exact location of these areas is no small part of diagnosis. Applying precise leverages is of equal value in technic.

Hemorrhagic areas are found in the connective tissue continuous with hemorrhages in the underlying muscle fibers. These are over the spinous processes, in an area just lateral to the transverse processes and in a deep area just external to the intervertebral foramina.

These hemorrhages are not due to rhexus but to diapedesis. There may be some of the former due to direct trauma but they are of no special consequence. The hemorrhages due to diapedesis are of a limited area with well-marked boundaries; they have no clots and no extra-vascular organization. In hemorrhages due to rhexus the blood escapes through the rupture; the area is irregular in outline and the blood clots.

Diapedetic hemorrhages are probably due to vasomotor involvement or some other nutritional factor that deranges the endothelial cells of the blood vessel. Fibrous tissue changes are found in both the edematous and diapedetic areas, when they approach chronicity.

An additional word relative to fibrosis may be in order, for it is one of the most universal structural changes that the osteopathic physician has to consider. In every chronic osteopathic lesion fibrotic involvement is a factor of no small moment. Its consideration is equally as important as that of bony alignment. In fact, it invariably maintains and perpetuates the bony displacement. Many of the technic leverages employed to readjust subluxations are in reality leverages that most easily loosen the fibrosis that is maintaining immobility. The local lesion is often characterized by the location of the fibrosis, modified by the direction of the articular planes. There are several other factors to consider, as shall be seen later, but the science of operative technic is based on resolution of forces. The operation may be more of the nature of releasing the pathological tension than it is of merely setting the bones.

Another important feature of the technic operation is to work with a minimum of force, so there will not be unnecessary tearing and bruising of tensed tissue. Overdoing may be worse than doing nothing. Not treating too often is equally essential. The tissues should not be kept irritated. For the proteolytic ferment requires time to do its part. And a very necessary part it is. Without its service technic would be hopeless. This property of the mononuclear and other cells of the body digests the debris so it can be absorbed. Technic is not altogether a simple matter of mechanics. On the contrary it is a complex operation of physiological physics. Unless one carefully studies this phase and considers every angle he can't be anything else than an indifferent technician. He is operating on living tissue; not on an inert machine. This should be fully realized.

The Subcutaneous Connective Tissue—In recent lesions the edema of the subcutaneous connective tissue presents an instructive study. The experienced practitioner is able by careful palpation to outline these edematous areas, the extent of which gives some information as to severity of the lesion and the local nutritional condition. It may also reflect the general tone and resistance of the body, which are important diagnostic signs. Usually, where the local edema is out of proportion to other local pathological conditions, recovery is slow, and much patience is required in the treatment.

Probably not enough attention is given this important pathological condition. As one becomes more skilled in palpation the abnormal subcutaneous connective tissue resistance due to edema becomes readily noticeable. Its outlined area is abrupt and striking. It signifies that the small arteries and veins are dilated, their walls disordered and the edematous fluid lessened in alkalinity, which produces a distinct pathologic effect on the nervous tissue. In addition to this there is an abnormal tension pressure on the nervous cells. These subcutaneous effects on nervous tissue, however, are not nearly of the import that they are in the deeper structure of the sympathetic ganglia and intervertebral foramina.

Subcutaneous edema in recent lesions "extends for a distance of about one inch to several inches from the lesioned vertebra, and it may extend around the affected ribs to their angles. Rarely such edema extends to the costa-chondral junction in the thoracic region. In the cervical region this edema rarely extends beyond the anterior surface of the vertebra itself. In the lumbar region it often extends four inches or more around the flanks. In innominate or lumbosacral lesions it follows the out-

line of the innominate bones and may even reach the symphysis pubis."

The older the lesion the more the connective tissue increases in amount, which adds to the rigidness and perpetuation of the structural perversion. In contrast to the yielding feel of the edema it is rope-like on palpation. The fibers are harder and shorter than normal due to the inflammatory-like changes. The fibrotic change here as elsewhere in the lesion shows how necessary it is to apply treatment that is correctly located and of sufficient force to lessen the rigidness and to increase mobility. The connective tissue change is progressive, and unless it is specifically treated, technic will amount to but little. Although the deeper connective tissue changes seriously involve the sensitive nervous tissues, still normalizing of all the structural tissues is necessary. And in some areas, especially the sacro-iliac juncture, considerable time may be required.

It is probable that more time in discussion and practice has been wasted on lesions of the sacro-iliac planes than any other part of the body. Fibrotic involvement is the one pathological factor that has been overlooked. In the first place, lesions here are not of very frequent occurrence, but they do occur. These joints are movable ones, which can be easily demonstrated by a little care in applying a force on a plane parallel to their articulating surfaces, whether upward and backward or forward and downward. And this is naturally the key to any possible easy technic. For otherwise one is applying a force that angles against the planes, which is not in harmony with the natural pull or play of the muscles and retaining ligaments, and which irritates the tissues. But it is the fibrosis of deep muscles and of ligaments that is the essential pathology maintaining the lesion. This condition must be loosened and softened as in any other thoroughly anchored lesion. Loosened and softened physically so that a better circulation can fulfil its chemical duties. The majority of pelvic distortions are due to sacrolumbar lesions. Correction of these will be followed by pelvic normalization. But there are primary pelvic distortions.

The Anterior and Posterior Spinal Ligaments—Herein lie aspects of spinal physiology, pathology and therapy that probably have been neglected by a number of technicians.

The anterior ligament extends from the atlas to the sacrum. Its deeper fibers are continuous with the peripheral fibers of the anterior aspect of the disk and firmly attached. These deeper fibers connect adjacent disks. Overlying these are longer fibers which pass over two, three, four or more vertebral segments. This may have considerable to do in tensing and changing contiguous segments when the ligaments of one segment are deranged.

This ligament is attached as firmly to the upper and lower limits of the vertebral body as to the disk. The attachment to the body of the vertebra is not firm. Between the ligament and the body is a small, limited space containing blood vessels, lymph spaces and nerves.

The posterior common ligament extends from the occiput to the sacrum. Its attachment to disks is quite similar to that of the anterior ligament, except at each disk there is a dentated appearance due to the ligament spreading out and becoming slightly contracted.

Its attachment to the vertebral body is also similar to that of the anterior ligament, although the space between ligament and body is greater. Within this space lie the blood vessels which carry the chief arterial supply and venous drainage of the vertebral bodies. There are also lymph spaces, small nerve trunks, sensory nerve endings and connective tissue. It is well to remember that the disk receives its nourishment by lymph from the rich supply of blood vessels within the body of the vertebra.

Recognizable pathology of these ligaments is not always a constant feature of the vertebral lesion. There is some thickening of tissue opposite the lesioned area in marked cases.

But, "extremely slight changes in the relations of the vertebrae caused marked changes in the tension of the posterior common ligament, and recognizable changes in the tension of the anterior common ligament. These variations in tension appear to be more important than such changes in the structure of the ligaments as were found."

Abnormal variation in tension contains innumerable pathologic possibilities, depending upon how delicate or vulnerable an area the tensed tissue encroaches. Tension of ligaments, muscles, connective tissue and fascia comprise a field but little investigated. It includes pressure or obstructive signs and symptoms associated with the arterial, venous and lymphatic circulations; with inhibited nerve impulses of the ganglia and nerve trunks; and with chemical changes in tissue and organs. In the final analysis, the broad field of osteopathic or structural lesions is founded upon variation in tension.

In the pathologic field the perverted structural effect of soft tissue tension is a result of the resolution of forces. The resolved effect, modified by the spinal architecture, determines the character of the lesion. This feature will be discussed later.

It seems difficult for some to get a perspective of the several factors of a lesion. Bones are very necessary to the support and confinement of all tissue. We employ them for invaluable technic leverages. But the osteopathic lesion is not based alone upon position and relationship of osseous tissues. Their active and potential position and relation in both normal and abnormal tensions are but part of the picture.

Here in this important and vulnerable area of blood supply to vertebra and disk, of the sensory nerve endings that supply its quota of conditioning to the entire segment, and of its partial dependence upon ligamentous tightening and loosening as motivated by spinal mobility and bodily activity, we find an interesting illustration of how immobility and pressure play their part of lesion pathology and more or less alter the nutritional picture. It is also readily seen how faulty technic may be not only futile but actually harmful by irritating and overstretching the tissues, leading to overgrowth of connective tissue.

There is no doubt that variations in tension of soft tissues play an important role in vertebral lesion pathology. The same is true of lesions gen-

erally. Abnormal costal conditions may affect the sensitive sympathics, the indispensable rib marrow and the drainage of cervical and pectoral lymphatics into the thoracic ducts, all through tension variations of soft tissues. A classic soft tissue lesion, with no bony complex, is the impingement of muscle and connective tissue on the infra-orbital and mental foramina, resulting in a certain type of herpes labialis. Soft tissue tension variations galore, of a pathological character, are found in chest, abdomen and pelvis, leading to definite lesions in the mediastinal tissues, in duodenum, in biliary tract, in pelvic organs, etc.; a vast field largely neglected from the standpoint of specificity.

(To be continued)

A Symposium on Visceroptosis—or the Ventral Side

PAPERS COLLECTED BY C. P. McCONNELL, D. O.

Costogenic Anemia

LOUISA BURNS, D.O.

Dean of Educational Department, A. T. Still Research Institute, Los Angeles.

Costogenic anemia is a disease of the blood due to malnutrition of the red bone marrow and characterized by imperfect development of the erythrocytes and the granular leucocytes. These characteristics depend upon certain anatomical and physiological relations of the red bone marrow.

Erythrocytes and the granular leucocytes are formed, during intrauterine life, in many areas of the embryo and in the extra-embryonic mesoderm. During adult life these cells are formed only in the red bone marrow, normally. Under certain very abnormal conditions, there may be some hematopoietic activity in the spleen and other lymphoid tissues, and this is a reversionary trait such as appears during disease conditions of several types.

The red bone marrow occupies the entire central areas of bones in embryonic life of the human being, and during the entire lifetime of certain lower vertebrates. In pernicious anemia and in certain severe secondary anemias the red marrow tends to extend into the marrow of the long bones during adult life, and this also is a reversionary trait.

During adult human life the red bone marrow, which is normally the sole site for the development of erythrocytes and granular leucocytes, occupies the flat bones, the small bones, the vertebrae, and the ends of the long bones, and especially the ribs. The ribs are so many, so long, and have such thin shells of compact tissue that they offer by far the largest and most important area for blood formation. In order that a normal supply of blood cells may be developed constantly it is necessary that the ribs receive a normal supply of good blood, flowing freely under normal pressure, and that the lymphatic and venous drainage be unimpeded. The structure of the rib marrow is of especial interest in this connection.

Along the lower edge of each rib there is a costal groove in which an artery, a vein and a nerve trunk are carried. Many nutrient foramina carry branches from the vessels and nerves through the compact tissue into the red bone marrow. Lymphatic vessels have not been demonstrated for the red bone marrow. The lymphatic drainage would, on account of the peculiar anatomical relations of the blood vessels, be scanty at most, and the perivascular spaces, the perineural spaces and possibly the Haversian system of the compact tissue would be sufficient to accommodate the scanty flow.

The small arteries of the red bone marrow usually pass directly to about the center of the medullary area, and small twigs from these central arteries pass toward the periphery, where the arterioles and the arterial capillaries pass into much larger spaces from which the venous capillaries and the venules arise. These larger spaces have only very imperfect endothelial walls, so that the blood-forming tissues, unlike nearly all the rest of the body, are nourished directly by the blood itself, with no intervening lymphatic fluid. This arrangement is necessary in order that newly-formed blood cells may have free and immediate access to the blood stream, and there is some evidence in favor of the view that the iron-containing radicals or side-chains necessary for the formation of hemoglobin are too large for easy passage through the ordinary capillary walls.

The nervous control of red bone marrow has been studied in normal human and animal ribs, vertebrae and ends of long bones, and in human ribs and vertebrae affected by pernicious anemia, aplastic anemia and cancer metastases.

The nerve fibers are derived from the sympathetic ganglia of the segments from which the bone has been developed during very early embryonic life, and the impulses carried over these nerves arise from the lateral horns of the corresponding spinal segments.

Two types of nerve ending are found within the red bone marrow. End plaques upon the arterioles are abundant, and a few are found on the venules. These are like the vasomotor nerve end plaques elsewhere in the body and are undoubtedly vasomotor in function. Other nerve endings are very fine, brush-like fibrillae which lie between the blood-forming cells. Their exact function is not known, but it seems very probable that they control the functions of the blood-forming tissues.

The effect produced by bony lesions upon the bone marrow are somewhat similar to the effects of bony lesions upon other tissues of the body. These have been studied only in animals with experimental or accidental lesions. There is first a temporary paling of the marrow and this is followed by permanent congestion. Local acidosis has not yet been demonstrated because of the difficulty of perceiving color-changes in any of the usual reagents in a tissue so filled with blood. Edema has not been shown, chiefly because there are no recognizable tissue juices and no recognizable lymph spaces. Atrophy and granular degeneration of the

hemapoietic cells is always visible six months or so after the lesion has been produced. The changes in the blood cells are described in the paragraph on Diagnosis.

Etiology—The disease is due to disturbances in the nutrition of the red bone marrow of considerable areas. This, in turn, is most commonly due to bony lesions, especially of the ribs. Lesions affecting the scapulae and the skull, and lesions affecting the innominates cause milder degrees of this form of anemia than do lesions of the ribs, on account of the greater area of bone marrow within the ribs. Lesions involving many ribs cause more severe anemia than lesions involving few ribs.

Generally, faulty structure of the thorax causes marked anemia. Drooping ribs due to improper posture, or to a general muscular weakness or atony or to incorrect breathing habits are common causes of disturbed circulation and innervation of the rib marrow. The erect position of the human body predisposes to this form of anemia because there is a tendency for the ribs to droop, under the influence of gravity, and thus to exert pressure upon the vessels and nerves lying in the costal groove on the lower edges of the ribs. (Animals on four legs have the ribs falling downward from the spinal column; weakness or atony thus exerts no great influence upon the position of the ribs nor upon the pressure exerted on the intercostal tissues.)

Emotional factors are important in the human race, or, rather, attempts at the repression of emotions. Polite persons do not laugh or cry inordinately, nor yawn, sigh or sob. Not only in company but when alone the civilized person keeps his breathing reactions under control, and tends to hold the thorax somewhat immobile for considerable periods of time. Modern clothing is less important as a factor than clothing used to be, but still it must sometimes be considered.

Diagnosis—The onset is gradual in typical cases. Weakness and cardiac palpitation are often the first symptoms. Accumulation of gas in the stomach and intestines is due to the inability of the blood to carry away the carbon dioxid. The face presents a tense and anxious expression, or is somewhat mask-like, according to the presence or absence of emotional repression. The conjunctiva and lips are rather pale, but there is often a dilation of the blood vessels which gives a rosy appearance to the cheeks.

Physical examination shows the thoracic rigidity in typical cases. In cases with marked muscular weakness the ribs are drooping but the thorax may not be especially rigid. Forced expansion may be normal or low, but expansion on quiet breathing is always very low, often being less than one centimeter. Diaphragmatic breathing is rarely very efficient. Intercostal muscles are usually tense and the intercostal depressions are plainly visible. Cardiac murmurs are of the hemic type. The liver is usually slightly increased in size. The spleen may be palpable but is rarely enlarged to any great extent. None of these findings is pathognomonic.

Uranalysis also gives negative results. Elimination is always somewhat lower than normal for the diet and exercise reported. The total amount varies with the water intake, and is usally rather greater than normal for the water intake. This loss of water from the body accounts in part for the slowly diminishing weight of these patients. Urea, uric acid, phosphates, sulphates and chlorides are all usually lower than normal for the diet. Excess of indican is common and calcium oxalates are usually present. When the lesions include the eleventh and twelfth ribs the kidneys always show some definite malfunction. Albumin, casts and renal epithelium can always be found if the urine is examined for a few successive days. Blood chemistry always shows some retention of the nonproteid nitrogen and usually of urea. Only after the lesions have been present for several years, or when some other cause of nephropathy is present is there retention of creatinin. Sugar metabolism is disturbed when the lesions involve the ninth or tenth ribs, usually with the associated vertebræ. Both the renal and the pancreatic involvement tend to increase anemia. Gastric symptoms are rarely noticeable, and then only when the stomach centers are affected by the lesions.

The blood cells are pathognomic. The hemoglobin is low, sometimes to 40%, and the total red cell count normal, subnormal or slightly above normal, making a very low color index as in the secondary anemias generally. The red cells vary both in size and in shape, and anisocytosis is about equal to poikilocytosis, while in ordinary secondary anemias poikilocytosis exceeds anisocytosis; and in pernicious anemia and related forms anisocytosis exceeds poikilocytosis. Red cells are generally small, vacuolated and sometimes nucleated. The white cell count is about normal, varying only slightly in typical cases. The hyaline cells remain normal in actual count. They may be increased relatively because of the diminished granular cell count. It should be remembered that only a few hyaline cells are formed within the red bone marrow, and that lesions affecting the red bone marrow are rarely so extensive as to affect the lymphoid tissues perceptibly. However, the circulation through the spleen may be affected by the thoracic lesions to such an extent that an excess of splenocytes is present. In such cases the spleen is barely palpable, though rarely enlarged to any greater extent.

Immature and reversionary forms of blood cells are abundant. Mononuclear neutrophiles are abundant; plasma cells, mast cells, basophilic and eosinophilic polynuclear cells all present varying degrees of immaturity and indicate subnormal activity of the hemapoietic tissues. Normoblasts and microblasts are present in numbers which vary from day to day, but megalocytes are never found in the circulating blood of these patients.

When the lesions are less extensive the anemia may not be significant, but on making a differential blood count based on five hundred cells (which is the lowest which gives any useful information) there are found a few normoblasts and a few myelocytoid forms of granular leucocytes. The presence of these reversionary and immature forms, in blood which presents a generally normal appearance, suggests that there are bony lesions which require osteopathic attention.

Treatment—This is evident when the diagnosis is made and the results of the osteopathic examination noted. Most important is the correction of rib

lesions, and these are practically always present. The immobility of a rigid thorax must be relieved; drooping ribs must be raised, and normal habits of breathing taught to the patient.

Exercises which tend to relieve pressure upon the intercostal tissues are helpful during the period of convalescence. To take breathing exercises in the knee-chest or the knee-elbow position relieves this pressure and facilitates good circulation through the ribs. Exercises which strengthen the intercostal muscles and which increase the flexibility of the thoracic vertebral and costal articulations are also helpful.

Any improper hygiene and diet must receive attention. Postural defects are important; the patient must stand correctly if he is to breathe correctly. Position at night may be cause of disturbed circulation through the rib marrow, especially in children. Habitual and occupational postures may be perpetuating, if not exciting, causes and these must be corrected.

The anemia is most quickly removed by a diet which contains chlorophyl and hemoglobin in abundance. Other forms of iron are of no use. A month or so of milk diet, though it contains little iron, is often of value, if given in a sanitarium or at home with proper care, but the milk diet taken under ordinary home conditions is more often harmful than helpful. The value of the milk diet in anemia of this type lies in the giving of proteids in an easily assimilable form, with such improved intestinal conditions that the iron of the liver and other tissues of the body can be efficiently utilized.

Prognosis—If the lesions can be corrected and the patient is obedient in preventing the recurrence of the original causes of the disease, recovery is rapid and permanent. Otherwise recurrence of the anemia is to be expected with recurrence of the lesions, or of the incorrect use of the thoracic muscles. With neglect, the anemia increases steadily but slowly. Nutrition of all the tissues of the body becomes subnormal. Resistance to disease is lowered and the patient usually dies from some intercurrent disease. Pneumonia, nephritis and diabetes mellitus are the most common of these intercurrent diseases, and these are often so mild that a fatal termination is not expected—indeed, probably many of the deaths from these diseases are really due, primarily, to the preceding costogenic anemia.

Prophylaxis—Lesions should be corrected as soon as they occur. Normal posture and normal breathing habits should be taught every child, and should be maintained by adults. Emotional repressions are to be avoided, but emotional control is desirable. A correct understanding of life and a sane philosophy of living prevent emotional repressions and emotional storms efficiently. The most important factor in prophylaxis is the correction of lesions as quickly as they occur, so far as this is practicable.

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Volitional Respiratory Control As an Aid to Abdominal Drainage

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One of the most pressing problems of therapy from an osteopathic viewpoint is the prevention of venous and lymphatic stasis in the abdominal and pelvic viscera, particularly in the region immediately below the diaphragm which has been described as the "death belt" by reason of the frequency with which disorders with fatal termination originate in this area. The return of the venous blood to the general circulation by way of the inferior vena cava, and of the lymph through the thoracic duct, is normally assisted by the ordinary respiratory movements. When these movements under the control of the will can be augmented, the effect is an increase of respiratory influence over fluid flow and the rapidity of the drainage is increased.

A definite technic in the application of method is preferable to haphazard procedure in attempting to apply the idea in securing increased abdominal drainage. The method which I have found efficient is as follows: With the patient supine and relaxed, at the end of a complete exhalation the nares are closed by the fingers while the lips are kept shut; the patient is then directed to contract the abdominal muscles. This produces a positive pressure against the contents of the abdomen including the sluggish fluids. Next, the diaphragm is elevated and the thorax is expanded by muscular effort, yet without inhaling, the mouth and nares still being kept closed. This raising of the diaphragm produces an upward-drawing vacuum in the abdomen while the expanded chest increases the vacuum in the intrapulmonary and intrathoracic space. This drains the lymph and blood with greater than ordinary rapidity from the abdominal area upward through the diaphragm by way of the inferior vena cava and supplementary veins, while the lymph moves by way of the thoracic duct. Next, if a small breath is taken into the upper lobes of the lungs without permitting the diaphragm to descend or altering the position of the lower costal arches, the increased vacuum in the upper part of the thorax aids the returning venous blood to reach the right heart and the flow through the thoracic duct to reach the right subclavian vein more readily.

This exercise carefully supervised should be repeated five or six times in succession, three or more times during twenty-four hours, according to the indications. About five seconds should be allowed each part of the procedure; that is, about five seconds allowed for the contraction of the abdominal muscles, five seconds for the elevation of the diaphragm and expansion of the thorax, five seconds for slowly filling the upper lobes of the lungs, then general relaxation with two or three normal breaths being experienced before repetition.

This measure properly applied provides a powerful vacuum pump operating on both the venous and lymphatic fluid content of the abdomen. It is useful and effective in all cases accompanied by

congestion below the diaphragm. It is contra-indicated, I believe, in only such rare cases of peritonitis as may follow perforation of an abdominal viscus.

It provides a measure that is useful in disturbances of digestion, including gastritis and gastric ulcer. It is particularly effective in draining the liver and in clearing up a stasis favorable to infections of the gall bladder. It is useful in disorders of the spleen, pancreas, kidney, suprarenal capsules, intestines, colon, and pelvic organs. In the beginning of appendicitis, it is markedly useful in securing drainage from the area of congestion before the actual formation of pus.

As a general routine measure it acts as a powerful normalizer to the abdominal viscera by reason of providing more efficient drainage so that new blood and new lymph come into more intimate contact with the tissue and tissue cells composing the organs having such vital capacities as do those of the abdomen.

In specific conditions its application regularly brings distinctly satisfactory results to both patient and physician. The technic is so simple that it is easily acquired and the range of its application so broad that it should find general usefulness by the profession, and patients may be instructed as to its use between professional visits.

Strickland Building.

Lymph Stasis

C. Earl Miller, D.O.
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PATHOLOGICAL MANIFESTATIONS AND PHYSIOLOGICAL RELIEF

Lymph is the more fluid portion of the blood which flows free in the tissues of the body. It is not unlike the blood within the blood vessels. The chief difference being that the lymph is somewhat more fluid and contains very few red blood cells. The cells found in the lymph are not distinguishable from the white cells found in the blood. The lymph comes from the blood at the periphery and after bathing each tissue cell as it passes around it, is collected in lymph vessels and is returned to the blood through the thoracic and lymphatic ducts.

The thoracic duct conveys the great mass of lymph and chyle into the blood. It is the common trunk of all the lymphatic vessels of the body excepting those of the right side of the head and neck, the right upper extremity, the right lung, right side of the heart, and part of the convex surface of the liver. The lymph from these parts is collected and returned to the blood through the lymphatic duct.

COMPLETE STASIS OF THE THORACIC DUCT

Blockage of the thoracic duct by parasitic worms or tumors gives rise to stasis of the chyle and causes it to pass in various abnormal directions. The neighboring abdominal, renal, and pelvic lymphatics become enlarged, varicose, and tortuous, and the chyle or lymph may make its way into the urine, or the pleural cavity, in consequence of rupture of some of these distended lymphatic vessels. Complete stasis of the lymph in the thoracic duct is not very common, and when it does occur it is surgical in character.

INCOMPLETE STASIS OF THE THORACIC DUCT

There is, however, a degree of stasis of the lymph in the thoracic duct which is very common, and this is the form of stasis in which the flow of lymph is sluggish. This form of lymph stasis is of great importance because it occurs so frequently and because it will yield to treatment. This form of stasis is found in most diseases which involve the heart. When for any reason the flow of blood in the subclavian veins is retarded there is created an increased pressure within the veins. This pressure in turn acts against valves which are located at the opening between the thoracic and lymphatic ducts and their respective subclavian veins. Therefore, in order that the lymph may flow from the ducts into the veins, the pressure in the ducts must become greater than the pressure within the veins. This results in a retardation of the flow of lymph through the ducts, and may influence the flow of lymph in every tissue and organ of the entire body.

DIFFUSION STASIS—ETIOLOGY

Diffusion stasis of lymph may be the result of stasis of the lymph of the thoracic duct or may be the result of traumatic injury or may be caused by any inflammatory process regardless of the etiology.

The most frequent cause of diffusion stasis is intoxication, either by bacterial toxins, as in the various infectious conditions, or by innumerable organic substances.

PATHOLOGY OF DIFFUSION STASIS

A disturbance of the nutritive equilibrium of the cells involved is a constant factor. In the event that the process is pronounced and continued there occurs an infiltration and deposition in the cells of substances which are abnormal to them both in kind and quantity. Parenchymatous degeneration, with granular alteration in the protoplasmic proteid frequently results.

Diffusion stasis is not always pathological, it may even be physiological as the result of the overloading of the cells with nutritional substances. This condition may be found in the epithelium of the liver during active digestion, and is to be regarded as physiological and temporary.

Edema in its various forms and degrees is the most common form of disease and always results in the abnormal functioning of the cells involved, and often in a profound disturbance of the organs and nerves. Complete recovery is easy and frequent. If, however, the causes persist, the cells pass into other degenerations, usually fatty metamorphosis, and recovery is difficult.

PHYSIOLOGICAL RELIEF OF LYMPH STASIS

The physiology of the lymphatic circulation is as old as life itself and had its beginning with the first breath of life.

The chief forces used by the body in maintaining this circulation are:

1. Muscular contraction. All muscles are triangular in shape with the dense tendenous portion farthest away from the heart and the less dense portion directed towards the heart. During the act of contraction the fluids in the muscle are squeezed or pressed forward into lymph vessels.
2. Respiratory movements. During the natu-

ral movements of respiration there are created forces of positive and negative pressure alternating between the thorax and abdomen. When the abdomen is expanded there is created a negative, or suction force, and the lymph is drawn from the lymph vessels into the receptaculum chyle. While this is being accomplished the thorax is in a state of compression. The pressure thus created is greater than the pressure within the subclavian veins and therefore the lymph is forced from the thoracic and lymphatic ducts into the veins. When the thorax is expanded a negative or suction force is created within the thorax and at the same time the abdomen is compressed. This causes the lymph from the abdominal portion of the duct to collect in the thoracic portion. Repetition of these movements causes the lymph in the tissues to be pumped back to the heart.

Under normal conditions of health and exercise these forces are sufficient to maintain full circulation of the lymph. During disease, however, these forces are insufficient and stasis of the lymph does occur. This being the condition, the task is to relieve the existing stasis and to restore the circulation.

This is accomplished by a manipulative procedure, in which the physiological movements of respiration are increased, both in number and in force. This method, known as the Miller Thoracic Pump, is so effective that visible edematous swelling in distal parts is reduced almost immediately.

This pump-like motion is done irrespective of the breathing at the rate of 120 times per minute. The rate of 120 per minute seems to be the natural rhythmical rate of rebound. The pressure varies with the resistance met with, but is just sufficient to overcome the resistance of the thorax. The results of this drainage are immediate and far-reaching.

The drainage of an infected area causes an autovaccination of the patient with the toxins from the infected area. The cells which possess an affinity for those toxins are aroused to specific defense and produce specific antibodies, these antibodies as well as the toxins are then drawn into the blood stream. A specific reaction between the toxins and antibodies follows, and results in the neutralization of the toxins and the immunization of the patient.

In paralysis, the removal of the fluid pressure frequently restores the nerves to function. Immediate results have been obtained in subacute apoplexy, embolism, infantile paralysis, and Bell's palsy.

Recent research has proved that even the blood chemistry is immediately improved. This is shown by the reduction of blood sugar, the reduction of blood uric acid and also by the reduction of blood urea. These changes take place within thirty minutes after the treatment is given. This field of research is just in its infancy and already promises results which are almost unbelievable.

241 Broad St.

Note: Dr. Miller has just perfected a lymph pump, driven by an electric motor. This pump is even more effective than his method of manipulation by use of the hands.

M. A. Lane on Splenic Treatment

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"To write nothing better than grammatical English," said Elbert Hubbard, "to punctuate properly, and repeat thoughts in the same sequence that have been repeated a thousand times, is to do something icily regular, splendidly null." Although the "thoughts" in this paper are not original I hope to escape that opprobrium of Hubbard's by again bringing before the profession M. A. Lane's work to explain osteopathy scientifically, and to demonstrate by laboratory proof its undoubted worth in the infections. It is my desire to see this work, only just begun by Lane, carried on to its final conclusion.

This paper is taken from Dr. Lane's original articles—"A New Method of Osteopathic Treatment for the Cure of Infections" and "Increasing the Antibody Content of the Serum by Manipulation of the Spleen"—published in the *Journal of Osteopathy* for December, 1919, and June, 1920, respectively.

Due to his untimely death the work was never finished, and Dr. Lane himself did not know where it would lead. Thoroughly honest and sincere in his belief in osteopathy, he was anxious to place it upon a firm, scientific foundation, and to prove its worth by laboratory experimentation. No one who ever cast in his lot with this great profession of ours was more fitted to accomplish this than was Lane; for, you will remember, he had already established himself in the scientific world by his discovery of the alpha and beta cells in the Islands of Langerhans of the pancreas. I understand that this work has been given much credit by the discoverers of insulin.

The first article—"A New Method of Osteopathic Treatment for the Cure of Infections"—was based upon clinical results extending over a period of two years and a discussion of the work of Preston W. Kyes, professor of immunology at the University of Chicago, who discovered the fact that "the spleen contains one hundredfold the amount of antibody contained in the serum of an immunized animal." It was upon this fact that Dr. Lane based his idea of splenic treatment in the infections. The osteopathic treatment of the individual cases was carried on first by Dr. H. T. Ashlock and later by Dr. M. R. McCollum. Dr. Lane said:

> It was my desire to demonstrate first that it was possible to use the spleen in this manner for the neutralization of toxins, and the killing of pathogenic organisms in the human body, thus giving to medicine a rational and scientific treatment upon sure physiological grounds of various infections that are found in man, and at the same time securing the full effect of the specificity of the various antibodies, by using the antibodies in each case produced by the individual specific antigen in each particular animal; in other words, by using the antibodies made in the patient's own body reacting to the individual antigen infecting the individual host.

The cases treated consisted of "pneumonia colds," infections caused by the bacillus influenzae, tonsillitis caused by streptococcus pyogenes aureus, abscesses of six months duration caused by bacillus

influenzae, in typhoid fever and in other diseases of infectious origin, the bacteriology of which were undetermined. All yielded readily to specific osteopathic treatment of the spleen.

In speaking of the researches of Kyes, Dr. Lane had this to say:

Recurring now to the researches of Kyes, which were begun about ten years ago at the University of Chicago, I desire briefly to recapitulate at least some of his results, which are unquestionably among the most important yet found in the entire range of the phenomena of immunity and infection. Working with pigeons, Kyes demonstrated that in the liver of birds, the endothelial cells of the liver sinusoids (capillaries) have a very high power of phagocytosis for the proper erythrocytes of the animal, and that these cells form huge syncytia which can ingest sometimes as many as five red cells. After ingestion, these red cells are digested by the endothelial phagocytes, and while in this state these phagocytes show a marked iron reaction by Perl. All stages of hemoglobin digestion, and likewise the digestion of red cell stroma and red cell nuclei of the avain red corpuscle are distinctly shown. These phagocytes are called "cells of intima," that is, fixed cells laid down on a fine connective tissue membrane. The number of these lining cells actually functioning in a normal way at any given time is small compared with the total number of the blood capillary cells in the entire liver. But their number, as can be readily seen, may be practically infinite just the same. Kyes interprets these phenomena to mean that hemoglobin is broken up by a ferment in these fixed phagocytes, the bilirubin being excreted by the liver cell and the iron restored to the lymph.

Kyes and his pupils also found that enormous doses of living virulent pneumonia germs, when injected into the wing vein of the bird, all ultimately found their way to the liver, and were ingested by these cells and digested by them. Other antigens injected into the blood of the pigeon similarly were engulfed by these cells, which Kyes has named hemophages. This work of Kyes I have carefully redone in my own laboratory and have verified his work at every point.

Passing from birds to mammals, Kyes and his pupils found similar hemophages in the spleen but not in the liver. These spleen hemophages in mammals conduct themselves always similarly to the hemophages in the liver of birds.

I have received from Professor Kyes several personal communications concerning the progress of his investigations, concerning his generalizations, and likewise concerning his theory of immunity based upon them, but inasmuch as he has himself not published these matters, I refrain from discussing them here. One of his demonstrations, however, which I mentioned at the beginning of this paper, I desire now to emphasize. Kyes immunized rabbits to certain antigens and measured the amount of corresponding antibody in the serum, and later in the spleen by extracting the spleen and measuring its antibody content. This content he showed to be one hundredfold the antibody content of the serum. If Kyes' generalization that antigens (infectious organisms of all kinds and other foreign protein substances) go to the hemophages of the spleen in mammals and there call out the specific antibody ferments, be true; and if the amount of antibody in the spleen be one hundredfold greater than the amount of antibody in the serum, then it should be clear that if we could find a method by which the spleen could be sharply activated, so as to throw out its enormous store of reserve antibodies, we would have a rational, and a highly and swiftly effective, method of arresting infections in all stages of their course, save in such cases as the toxins had destroyed too much parenchyme.

The second article, "Increasing the Antibody Content of the Serum by Manipulation of the Spleen," dealt with the results of the laboratory experiments on two rabbits, A and B.

Rabbit A was given three injections of 10% suspension of washed sheep's corpuscles of 3 cc. each, at intervals of three days, and then allowed to rest a week. The titration then showed a 1 to 4000 titre. Twenty-four hours after this titration, the animal was given three treatments in the region of the spleen, the treatments being given at intervals of one hour. A few minutes after the last treatment, the animal was bled, and the titre this time was 1 to 5000. Forty-eight hours after the last treatment, the rabbit was again treated as just described, the titre being found at this time to be 1 to 4000. After resting a week, there was but a small amount of hemolysis in the highest tube of the 1 to 1000 dilation. After two weeks more of rest, the animal was again titrated, and showed a titre of 1 to 400.

In rabbit B, the results were not so consistent. It was handled in the same manner as Rabbit A, the corresponding results being as follows: The first titration before treatments were given showed a titre of 1 to 2500, the day following it was treated three times, and on the second day was given two treatments, and 96 hours after the first titration, it had a titre of 1 to 3333; in the two successive days it was given three treatments per day, was bled, and the titre had dropped to 1 to 2857. After a week's rest it was again treated three times a day for two successive days, was bled and showed a titre of 1 to 4000; it was then given three vigorous spleen treatments per day for five days, and was found to have practically no antibody in its serum; after three weeks rest, without further treatments, its titre was found to be 1 to 400.

In conclusion, Dr. Lane said:

It is quite obvious that further work must be done, and that the curve of Rabbit B must be produced regularly as an effect of manipulation.

Most rabbits will give their highest yield in response to immunization on the seventh day after the last injection of the antigen. Some Wasserman operators kill the animal on the ninth day after the last injection. In view of these facts the curve in R (rabbit B) is highly significant. It may be interesting to state that two subsequent injections were given Rabbit B. In response to the first of these titre rose to 1 to 5000, and in response to the last it rose to 1 to 33,333. The animal was killed, however, before the last titration was made.

At the time of Dr. Lane's death, we were getting bacterial cultures of known virulence ready to inoculate rabbits, and then to determine the effects of splenic treatment on them. To my mind there is a real field for research here. If treatment of the spleen were negative, then try, for instance, the effects of general osteopathic treatments. This work would take a great deal of time and money, more time than the average practicing osteopath has at his disposal. From clinical results we feel sure that osteopathic treatment does increase the antibody content of the serum in the infections, but would it not be a fine thing if we had absolute laboratory proof that we could show to the scientific world?

Masonic Temple.

The Diaphragm*

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Dr. Still, in his Mechanics and Philosophy, refers to structural disorders of the diaphragm as important osteopathic causes of lesions to the vessels passing through this tissue. Dr. Hazzard, in his work on Practice, presents an instructive osteopathic study of the diaphragm. The diaphragm is one of the most important structures of the body. It is physiologically active during every minute of the day and night. The entire ventral aspect of the body, chest, abdomen and pelvis is more or less dependent on its extensive structural relationship.

In the therapeutic application of osteopathic science there has been a tendency to overlook or neglect this extensive field. Every branch of the science is as applicable here as elsewhere. This is not implying that one should neglect the spinal area in the least, but rather there should be greater relative appreciation of other sections of the body. We will first outline a few general features pertaining to diaphragmatic support and activity. These are points stressed by Keith.

The muscles from the upper aperture of the thorax to the floor of the perineum increase and diminish during each respiration, so there is even fluctuating respiratory capacity of the body cavity. "Every organ within the body cavity swings with the respiratory tide." It is readily seen how important to thorough respiration are the anatomical and physiological relations of the chest and abdominal viscera. Autopsy shows that after death the diaphragm represents a phase of complete expiration, and the elasticity of the lungs insures contraction of the pleural cavities to their utmost physiological extent.

Bound firmly to the abdominal aspect of the diaphragm are the liver, spleen, stomach and kidneys. All of the organs and tissues of the abdomen have respiratory movement with the exception of the radix mesenterica which is immovably fixed and is in front of the twelfth dorsal and first lumbar and between the crura. The radix mesenterica is the hilum of the peritoneal cavity, the center around which respiratory movements of the abdominal organs take place. The duodenojejunal flexure and part of the pancreas always remain in position.

There are three principal supports of the diaphragm. First, the abdominal support supplied by the expiratory muscles, mainly those keeping the viscera pressed within the concavities of the diaphragm. Second, the thoracic support by the pericardium, heart, great vessels and lungs which directly or indirectly attach its upper surface to the structure at the root of the neck and to the whole extent of the thoracic wall. Third, the costal support, the abdominal ends of the lower six ribs, long movable levers maintained in position by their passive articulation with the spine and the active concentration of the external intercostal sheet of muscles. He further says each of these is necessary —impairment of one will mean a corresponding failure with the other two.

Heretofore, says Keith, it has been taught "that the part of the diaphragm between the pleuræ on which the heart rests and which the inferior vena cava, the œsophagus, and the aorta perforate, was nearly immovable and of little respiratory importance. Holding this view, it was difficult to explain satisfactorily why fibers of the two cura constituting rather more than a fifth of the total muscle should ascend vertically to be attached to the cardiac area of the diaphragm, send fibers to the pericardium and strongly ensheath the inferior vena cava and be intimately adherent to this area; in fact the insertion of the crural fibers is prolonged to all structures of the mediastinum but especially three parts: first, heart itself; second, roots of lungs, and third, the great vessels and fibrous tissues in the upper aperture of the thorax. Thus during each respiration the crura from their firm spinal origin on first, second and third lumbar vertebræ exert their strength in drawing downward the structures of the mediastinum and thus drawing down the supports on which the central support of the diaphragm depends. The active contraction of the crura is the most important factor in the production of the condition of visceral ptosis."

Every osteopathic physician knows full well what a large percentage of incompetent abdomens there are and what excellent results can be obtained through the correction of the spinal innervation, attention to the depressed lower ribs and direct abdominal adjustment and treatment. This theory of Keith's throws an additional valuable light upon the problem, emphasizing the great importance of *forced expiratory breathing* with retraction of the abdomen and of careful attention to probable developmental deformities in the growing youth.

Keith says the adhesion of the pericardium to the diaphragm in man is an adaptation to his upright or orthograde posture. It is a most effective support against ptosia of the viscera. The mesentery, or posterior reflection of the mediastinal pleura, binds loosely the œsophagus, trachea and heart, thus allowing forward extension of this dorsal thoracic mesentery with each breath. The adhesion of the pericardium to the diaphragm with evolution of the upright posture increases the load. Owing to the nonflexibility of the apex and the posterior wall, expansion must be downward, forward and outward, moving the entire lung and facilitating breathing and allowing the lung to expand equally and heart and lungs retain relative position. The elasticity and extensibility of the trachea facilitates the descent of the pulmonary root.

An interesting point to the osteopathic physician is brought out in the description of the cause of the common occurrence of an anterior curvature in the cervical region in these cases of visceral ptosis. The structures of the mediastinum supporting the central part of the diaphragm to the upper aperture of the thorax and root of neck continue to the manubrium sterni, inner ends of the clavicles, Sibson's fascia, first pair ribs and anterior tubercles of the cervical transverse processes. The first pair of ribs in ptosia is not only oblique in position but it is often bent downwards at the juncture of neck and body. He says the curvature of the cervical

*The following is an outgrowth of certain portions of a paper, "Osteopathic Factors in Infancy, Childhood and Adolescence," published in the JOUR. AM. OSTEO. ASSN., March, 1909. Several valuable points relative to the diaphragm were taken from Keith—Enteroptosis—*The Lancet*, March, 7-14, 1903. For many years we have been interested in the various osteopathic clinical applications pertaining to the ventral side of the body. In our experience, we have found them of great therapeutic value.

region is probably due to strain on mediastinal supports from failure of costal and abdominal supports of the diaphragm. To the osteopathic physician this explanation would answer partly at least, but it seems to us that the curvature and flat upper chest which is commonly observed in these cases is also partly compensatory to the prevalent lower dorsal kyphosis, partly due to the withdrawal of support of the physiologic dorsolumbar swerve, and partly a result of muscular weakness, and also from the fact the cervicodorsal area is an anatomical weak point.

In a summary of the thoracic supports of the diaphragm "it will be seen that all structures within the thorax, the heart, the great vessels, the pericardium, the mediastinal and cervical fasciæ, the dorsal mesentery of the thorax and the lungs, help to bind the diaphragm to the walls of the thorax and neck." Thus the thoracic load of the diaphragm of the structures during diaphragmatic contraction. Although the passive supports of the diaphragm are important, still the diaphragm contraction is the active factor in ptosis. The diaphragm is a true digastric muscle composed of two segments, a spinal or dorsal segment, consisting of crural and arcuate fibers originating from the last dorsal and upper three lumbar vertebræ, and from the arcuate ligaments, a thickening of the sheaths of the psoas and quadratus lumborum muscles; these fibers expand and terminate in the central tendon from which most fibers of the costal segment directly arise. The costal fibers descend and spread and insert on the ventral ends of the lower six ribs, not usually the twelfth rib. "Thus the spinal origin and costal insertion of the muscles almost meet. At the same time the insertion of the quadratus lumborum muscle, representing backward continuation of the sheet from which the crural fibers of diaphragm were developed, also undergoes a corresponding extension outward and thus binds the origin of the arcuate fibers to the ilium."

The effect of the diaphragm on the abdominal viscera on inspiration depends on two factors, first, the opposition offered by the muscles of the abdominal wall to descent of viscera and, second, the mobility of the lower six ribs. "If the muscles of the abdominal wall offer strenuous opposition to descent of viscera then the abdominal contents are no longer a respiratory piston but a respiratory fulcrum over which the diaphragm is supported and from which it exerts its force on points of insertion of the lower six ribs (where the costal fasciculi of diaphragm are inserted). By its contraction it tends to lift the whole thoracic cage on the abdominal fulcrum"; this type of respiration is called thoracic. If, on the other hand, the abdominal walls and viscera yield to pressure of the diaphragm, then the force of contraction is spent outward, assisting the external intercostals in lifting the thoracic cage, but in forcing down abdominal viscera which become thus a respiratory piston; this type of respiration is called abdominal. In either case there may be visceral displacement, for the action on the spinal segment is to draw downward. The piston pressure of diaphragm constitutes the important etiologic factor.

It is otherwise with the costal segment, for the direction of action of costal fibers depends on rib position. "Direction of costal fasciculus of diaphragm does not quite correspond to axis of rib on which it acts, although at end of inspiration they are nearly identical. For practical purposes lower six ribs may be taken as indices of the axis in which costal fibers of diaphragm act. Hence, when ribs are at small angle with horizontal at birth, the costal fibers being arranged nearly in axis of the rib, draw the viscera which are within concavity of the diaphragm forward against the anterior abdominal wall." In the adult these ribs occupy a position midway between the horizontal and vertical, for they become depressed from ten to twenty degrees. As the depression of ribs is accompanied by a corresponding alteration in the direction of the costal fibers of the diaphragm there is a tendency to push the viscera more downwards and forwards. Any condition that constricts the waist region would cause ptosis. For then the action of the costal fibers of the diaphragm become still more vertical in direction of their axis and naturally the effect upon visceral anchorage is greater.

Thus, through weakened innervation, through lessened innervation of the forced muscles of expiration, abdominal parietes, quadratus lumborum and serratus posticus inferior, and through approximation of spinal and costal diaphragmatic segments from increased rib obliquity, we get viscus laxness, diaphragmatic laxness, stoop shoulders and upper flattened chest as characteristic features. These may include both inherited and acquired tendencies or factors.

In order to appreciate the diaphragmatic mechanism, stand erect, blow the air out of the lungs and bring the forced muscles of respiration into action. This tends to reestablish the normal physiologic curves, raises and retracts the diaphragm, elevates the viscera into a more normal position and relation, and increases upper thorax contour.

Abnormal pelvic inclination is commonly secondary in these cases, but not necessarily so. Round shoulders may be due, also, to a compensatory spinal column change, although mere physical weakness and slouched posture are frequent factors; likewise the flat upper chest. In more marked cases it certainly seems reasonable that the unantagonized strong inspiratory pull of the spinal segments, the crura, from its immobile upper lumbar origin upward through the central tendon to the organs and vessels and fasciæ of the thorax even to an insertion into the osseous tissues of upper chest and cervical vertebrae, is a factor of great practical value. It is one exhibition of the abdominal and thoracic viscera and their bearing upon body confirmation both longitudinally and transversely.

AN EXTENSIVE FIELD

Once again pucker the lips as in whistling (no preliminary inhalation) and slowly exhale, while at the same time elevate and retract the whole abdomen. This requires a little knack. Note the effect on the bodily configuration—elevation of whole ventral side of body, improvement in physiologic curves of spine and pelvic inclination, straighter shoulders, and erect carriage of head—literally a change that affects every organ and tissue

of the body. Nothing new about this, except it requires practice in order to be effective.

This is a powerful mechanism made up of many component parts, whose structures are subject to a variety of lesions that are far too frequently neglected. Effects are noticed not only in those of the pendulous abdomen, flat chest and round shoulders, but also in those of the fat belly, bronchial infections, boggy tonsils, arthritic knee-joints and flat feet. No one questions that postural defects, deleterious habits, etc., are among the causes of vertebral lesions. Why consider only the spinal mechanism? Why not also consider removing a certain load off the heart, widening the aortic arch, increasing the capacity of the mediastinum, promoting lymph drainage of the head and circulation to the breasts and stimulating receptaculum chyli and thoracic ducts by utilizing methods no less osteopathic than those related to the spinal nerves? Structural osteopathic mechanics is inclusive of the whole organism—not one portion. Osteopathic ingenuity should work out innumerable therapeutic applications.

The spinal mechanism is not the only one subject to lesions. A good illustration of a lesion independent of the spine is herpes liabilis due to tension of soft tissue over the infra-orbital and mental foramina.

The essential feature of this outline is that the diaphragmatic mechanism is subject to lesions, and owing to its extensive ramifications enters into the pathology of many disorders. The lesions specially considered here are injuries to its supports, from disuse, habits and distinct changes of skeletal framework. These include both developmental and acquired factors. Much depends on a correct general viewpoint of structure and function.

Many possible detailed therapeutic applications will occur to the osteopathic physician.

Employing the principles of osteopathic applied anatomy the physiologic effect on liver, pancreas, spleen and kidneys is frequently notable. This has been demonstrated especially on the liver and spleen. Releasing abnormal tension on vessels and ganglia, improving drainage, and stimulating normal functions are highly desirable. The results are not merely those following exercising of the parts, but the effects of readjustment therapy are obtained. The crippled mechanism is structurally set aright. It substantially complements the readjustment spinal therapy by following up in detail similar corrective measures. It views the entire segments as a physiologic unit, the related organic region as a reciprocal conditioning mechanism, and the whole body as a concatenated organism.

The many surgical operations of the upper right quadrant of the abdomen is a commentary on the inefficiency of many therapeutic measures. Or at least measures poorly or incompletely applied. Spinal therapy secures many excellent results. But this is applying osteopathic principles to only one part of the vital organism. Readjustment of the spine is remedying only one portion of the structural mechanism. The remaining portion is often left to its own inherent resources, which may or may not be sufficient to overcome the structural organic handicap.

Readjustment work here is frequently striking in its beneficial results. Adjusting, replacing and toning of these parts improve position and relationship of structures and organs, which is certain to be followed by better functioning. The effect on biliary-tract drainage is frequently notable. There is reason to believe that the effect on the pancreatic duct is beneficial. Duodenal replacement is distinctly helpful in hastening recovery from peptic ulcers. The duodenohepatic ligament is composed of important vessels, artery, vein and duct. Release of abdominal tension here is important. The effect on the associated nervous mechanism is of equal value. Experimental spinal lesions cause relaxation of the pylorus and its allied structures, associated with considerable basic pathology of vascular tissue, nerves and glands. When such conditions become chronic, normalization depends on both visceral and spinal measures. The adjustment work should be equally specific to both spine and viscus.

There is no organ of the abdomen and pelvis that cannot be influenced by improving the structural and physiological balance through direct adjustment methods. Body conformation and poise assist in maintaining normalization and capacity. Not only the relative position of an organ is of importance, but the tone and elasticity of supporting tissues are indispensable. A point often overlooked is that the total ventral side of the body functions under diaphragmatic activity, as a unit. An imbalanced state of pelvic tension, for example, may be fundamentally dependent on diaphragmatic atony. The lesion of one organ may be the sequel of a far-flung derangement. Structural balancing conditions, the same as organic chemical conditions, are dependent on many factors. When impaired, the result constitutes a prediseased state. Diagnosis depends on ferreting out the exact resolution of the forces. The predisposing causes of pelvic and rectal disorders are often primarily due to abnormal structural tensions higher up, which affect pelvic inclination and organic balance. Associated with these are definite spinal lesions resulting from defective posture. Probably some one section will receive the brunt of the resolved tensions, similar to vertebral effects and in accordance with mechanics.

The uterus, tubes and ovaries, the upper rectum, the sigmoid, the cecum, the duodenum, duodenohepatic ligament and pylorus, and the kidneys, for examples, are frequently disordered, which after all is part of a greater pathological picture. The first requirement is to view the body as a whole, a complete working unit, before attempting any local correction. Local therapy should be definite and distinct, but consonant with all underlying etiologic factors.

The same principles are applicable to the chest and upper respiratory tract. The heart, lungs, pluræ, thoracic ducts, costal rib-marrow, mediastinal glands and allied structures, vessels and nerves can be influenced to a marked degree by improving tone and range of diaphragm and increasing chest capacity and posture, and at the same time obtaining a better respiratory unification of chest, abdomen and pelvis, provided the pathological involvement does not contraindicate the procedure.

Conditions of unresolved pneumonia, infiltration of mediastinal glands from influenza, costogenic anemia, and stasis of lymph of chest and head can be distinctly improved. The potency of the remedy is not slight. Caution should be exercised

in its employment. When indicated, it is a therapeutic measure of great value if rightly employed.

Its principles are applicable to the maintenance of health, the building up of resistance, and the overcoming of stasis, in addition to the innumerable local therapeutic applications.

THERAPEUTIC APPLICATIONS

Obviously, in a field so extensive as the ventral side of the body there are many aspects of the technic problem, depending on location and character of the underlying pathology. We have emphasized the diaphragm because it occupies an important and unique position in relation to numerous functions of the body. Health activity is dependent on it. Partial disuse of the diaphragm is fraught with many possibilities of a prediseased type. Its condition and its many structural and functional relationships are commonly overlooked. Directly normalizing these structures constitutes a potent therapeutic measure that is invaluable.

There is considerable more to the therapy than to tell the patient to stand erect and exercise and tone the muscles of forced expiration while the abdomen is elevated and drawn inward. Or to have them take gymnastic and walking exercises. These are general methods to both maintain and regain health.

But there are, in addition, many specific applications that bear directly on distinct pathological conditions. If any one of the diaphragmatic supports —parietal, thoracic or costal—is defective, there necessarily is impairment of the whole structure. This is especially shown by laxness of the abdominal walls, flatness and rigidity of chest, and downward displacement of the lower ribs. The stooped or slumped figure is almost invariably part of the picture. It is not necessary here to more than refer to this for it is well known.

Specific methods that distinctly elevate and retract the abdomen while the diaphragm is domed by forced expiration, that release chest rigidity and increase chest capacity, and that elevate the lower ribs are certain to be effective. In selected cases additional measures that directly stretch the crura, elevate and dome the diaphragm should be employed. The physician may place the flat of his thumbs underneath the costal arch and stretch the diaphragm during forced expiration. This releases the crural tension, and frequently increases the diaphragmatic range by an inch or more. The piston-like effect on the organism is marked. This may be done while the patient is on his back with thighs flexed; or while he is in the knee-chest position. The forcing should be carefully and gradually done, with due regard to pathology. It is far more effective than the inexperienced would suppose. The mechanism of doming is really a powerful one.

These methods are basic to much subsequent detailed or local work such as elevating the duodenum at its most dependent part in peptic ulcer —this at a point opposite of the second or third lumbar and next to the ascending colon. Duodenal elevating should be done cautiously, while the patient is in the knee-chest position. A correctly executed technic is often followed by marked improvement. This means carefully and gently raising the lowest part of the duodenum, which will be found baggy and boggy. The effect on the proximal end of the organ is marked.

The same is true of draining the biliary tract. A complete command of the field of work must be assured. Elevating, replacing and draining these tissues is an art, depending upon a knowledge of local conditions and regard for the pathology. But if carefully executed, with due attention to the force and time elements, excellent results may often be obtained. If an error is made it should be of the nature of doing too little. There is much pathology of this region which can be successfully treated if seen in time.

The cecum and sigmoid are other regions which frequently require special attention. Here, as elsewhere, the work should be specific when releasing, elevating and toning are required. With the patient in the knee-chest position, get under the organ and apply an inhibitory—releasing and adjusting technic, not beyond the point of dulling the tactual sense. Various other local manipulative methods may fairly often be effective. But the essential point is: a degree of specificity is indicated as in spinal work.

Advocating direct work here or elsewhere does not mean that spinal lesions are to be neglected. Neither does it mean that the total enteroptotic picture is to be overlooked, for many of these local conditions are manifestations of a widespread involvement of the ventral side of the body. Ofttimes there is a degree of stasis and lack of tone throughout the viscera. This should not be forgotten. Not that this condition is a disease in itself, but rather a stage of disease history which leads to definite disorder.

Disorders of the pelvis are numerous. Probably the general principles have been sufficiently emphasized to show their practical bearing in this region. There is no question that many local treatments are futile simply because predisposing factors of the disorder have been neglected. Treating locally and surgically removing effects are often poor excuses for neglecting causes.

The upper rectum, the juncture between pelvic colon and rectum, is another region that should receive specific attention in cases where the rectum is involved. Stasis, lack of tone and relaxation will be noted, similar to many conditions of cecum and duodenum. Certain anatomical features, such as a loose submucous coat, few vessel valves and direct penetration of the walls by bloodvessels, enter the equation. A beneficial method is to treat the juncture region directly through the abdominal wall opposite the third sacral segment, while the patient is in the knee-chest position.

We will select one other region illustrative of specific osteopathic therapy to the ventral side of the body. This is the region where the cervical lymphatics drain into the thoracic ducts. The flattened upper chest, round shoulders, and some degree of anterior cervical curvature are often part of the clinical picture. Diaphragmatic impairment is frequently a contributing factor, owing to its extensive thoracic supports.

Perhaps no other area of the body is more often neglected. Adjustment therapy is almost invariably indicated here in all cases of upper respiratory infections. Lymph blockage due to malrelationship

of first rib, clavicle and scaleni is fairly certain. The associated lymphatics of pectoral and axillar areas are also involved. From an osteopathic pathological point of view it is one of the most commonly affected regions of the body.

Attention should be called to a fairly frequent spinal condition that is associated with impairment of the diaphragm. It should be treated in these cases as a part of the bodily conformation mechanism. This is the retention in childhood of the dorsolumbar posterior curve of infancy. The lack of change of the maximum dorsolumbar backward convexity in infancy to the mid-dorsal area in childhood, when the curve should assume a permanent position with the maximum backward convexity at this latter point, has a direct bearing on bodily configuration and diaphragmatic integrity.

These few points will probably illustrate the purpose of this article: that osteopathic pathology and therapy should not be confined to any one region of the body.

Easy Methods Effective at Bedside and Table*

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The answer that the osteopathic physician makes to the call, "My child is very ill, will you come at once?" determines his status in the community. The assurance with which osteopathy takes hold of the *acute case* marks its measure as a school of therapy. The final test of any system of healing is at the bedside.

Since a half century ago, when the Old Doctor began working out his theories with the sick in his neighborhood, on through the years to the scourge of 1918 and yesterday's pneumonia and post-flu cases, osteopathy has, especially in acute practice, rendered a service of rare and specific value. Some osteopathic physicians may specialize, but the school of osteopathy must always answer the call where the need is greatest and at no place is that need so great as at the bedside. To conduct only an office practice is no proud distinction, for to that degree osteopathy loses its great opportunity and shirks responsibility. Making good at the bedside is what gives us favor and prestige. And as Dr. McConnell well says in a recent editorial, "Doing a certain amount of acute work should be incumbent on every one." Our colleges prepare the osteopath to be the family physician. He must be thoroughly prepared to do the best thing possible under every conceivable circumstance of human suffering. If a surgeon or other specialist is needed the osteopath is the best judge as to when, what, and whom. The case is his to see it through, having at his call the aid of laboratories and the consultation of surgeons and specialists as indicated.

A general and specific diagnosis, exact location, amount and character of involvement, these will determine the technic best adapted. A mental x-radiance of the deep and superficial conditions, aided by the "feel of the tissues" and sense of the changes desired or happening as the operator works, is essential. Otherwise any sort of technic may be worse than useless. Hard work alone, bedside or otherwise, does not make a genius, but the "infinite capacity for taking pains" in the treatment of patients whatever the technic, makes any D. O. a genius in overcoming disease. One purpose of this technic is to relieve the "hard work" side of acute practice; the other is to enable the operator to do for his patient more effective work with less tire and in less time. The specific work may take three or fifteen minutes but in this method there is so much power and easy control at hand that we must guard against too long or too severe treatment. One or two minutes' stimulation of certain segments has clinically, in research study, been found sufficient, says Dr. Burns, and adds "in all cases the effects of stimulation were annulled by too long application of the stimulating movements. If the movements were very heavy and were continued for over five minutes the symptoms of exhaustion of the centers appeared."

To find, fix and quit are imperative at the bedside. A thrust at the spine may be specific, so also is a gentle stretch or rotation about the edematous blocking in the spine or other segment of the body. It is a physiological principle that steady gentle traction brings relaxation.

Dr. Teall says "results in acute cases show what can be done by careful relaxation." We must conserve body forces. Lesions, like wayward children, may sometimes need a thrust to send them home, but ofttimes they line up and stay put much better if gentler methods are used to bring them back. G. V. Webster writes in the Jour. Am. Osteo. Assn.: "Living things prefer persuasion to force, consideration to trauma, intelligence to ill expended force. It is better to work with the tissues than at them. Nature has her rewards and also penalties for the manner in which lesions are treated. Cooperate with nature."

Bedside technic is a large term—the psychology of the sick room, the instruction of nurses, the management of relatives and a multitude of items. The suggestions offered here are but a page in the volume. What sort of technic shall we use? Any sort that will work, remembering that while patients are not made for technic, yet there may be some kind of measure best adapted to certain kind of cases. Few of us may adopt another's exact method, but most of us may find practical value in the principle therein. Fulcrums, the patient's own weight, gravity, balance and short levers are the basic principles here involved. These rightly placed and timed work out with ease and precision. The advantage is that the operator has the relaxed body under convenient easy control at every point with his two pillowed knees cooperating with his hands for the specific traction, bend, release, adjustment or correction desired—the operator sitting on the side of the bed or stool.

Place a large pillow or pillows under head and back, gently lifting or swinging well covered patient onto knee as doctor sits on chair or stool, which should be about the same height as bed, patient's hips firmly fixed on bed. Knee glides easily to any point to lock spine, while neck and shoulders are treated and the whole back is rested and relaxed. This relaxed weight over the adjustable fulcrum,

*Reprinted here at request of Dr. McConnell, chairman of symposium.

a twist from side to side, flexion or extension and some articulations fall into line. Knee on angle of rib, arm as lever, operator's thumb on anterior aspect of rib for raising or correction.

Operator taking pillowed shoulders of patient on knee while he sits on bed, footstool convenient. Patient's head and back on large pillow neck saddles over knee; other knee acts as fulcrum under pillow, while hand, the back resting above pillowed knee, searches and tests out spine, rib and other tissue conditions. Gently lowering one or the other fulcrum for traction, tension easily held, with side or rotary move.

One hand over liver, other over spleen while moving fulcrum cooperates with hand to give thorough liver treatment. Lowering one knee to flex body, then that knee up and the other knee dropped to stretch and distend—knee playing on innervation in spinal tract. The importance of liver treatment is emphasized by a report of our research department: "The liver was the usual seat of disease for all ill-tempered animals." Slow rhythmic treatment is given to spleen and other organs. Similar treatment of spleen is given with patient prone. Lane has emphasized effect of splenic treatment. Burton-Opitz says, "Large numbers of these cells (white) may then be released from this organ by causing it to contract." Roy *(Journal of Physiology)*, states that there are normal rhythmic contractions of the spleen at the rate of one per minute. Burton-Opitz also emphasizes that erosion of gastric mucosa can be helped by augmenting local and general circulatory efficiency.

Occiput over knee, hand on forehead and other hand free to test out while knee moves outward to get and hold traction. The patient may be turned on either side for treatment of spine; testing out spine, neck and shoulder against outer knee, springing body forward or side-bending it.

Patient prone—chest on pillowed stool or knee—test out degree of tension or lesion, and also when patient is prone note abdominal segments. Heavy thickened parts will map themselves on the abdominal wall. A large sensitive stomach or impaction, heavy cecum, and tender appendix can be specifically outlined by touch or gentle tapping up against the wall. Nowhere is the touch sense more essential than in acute practice. The breath vibration, the acute reflex conditions along the spine, the abdominal sensitive points can be picked out before the patient senses them.

For treatment the cupped hand above operator's knee, borne and controlled by knee, can grasp and bring towards diaphragm the sagging parts, and drain the pelvic section. Patient prone on pillowed knee, head and chest lowered from a slight to a sharp degree helps to drain pelvic lymphatics and replace general abdominal ptosis and relieve resultant constipation and impactions. Safe and accurate treatment is given to nearly all organs because they fall away from spine against the belly wall into your hands for lifting, adjusting and treatment. X-ray before and after course of treatment will readily show some of the exact changes made in ptosed conditions. Elevating foot of bed is good but applying treatments like this means greater gain. Patient on back for similar purposes with legs in bicycle and walking movements in conjunction with deep inhalations and sudden exhalations while operator works to bring ptosed parts chestward.

The knee-chest positions are good but these are less tiring to the patient and doctor and more effective, if rightly managed. This position aids portal circulation, relieves pull and sag of diaphragm and general drain and tone of the parts. There are reasons for the old saying that one should hang by his feet and knees or walk on all fours a few minutes each day.

Whether for a child or adult, for light or weighty bodies, these methods will work with equal ease and success. In each case the shifting of the fulcrum so as to lock a section of the spine for a stretch or relaxation of a certain segment, the sliding of the fulcrum (knee) beneath the angle of a rib, the weight of the body holding there while both hands are free for further corrective work, make these positions very effective. The heavier the patient the more firmly he is held on the adjustable fulcrum. A stretch, a slight side movement to and fro or up and down of the swinging body and segments gain freedom and a more normal relation.

Let the fingers feel the motion as you work. Place the fulcrum on or near the lesioned segment and note this movement. The carefully directed swinging-pivoted-weight helps to do the work. What segment is more difficult to get action in than the upper dorsal? Try letting this segment fall over the cushioned knee where you can get extension, flexion, rocking in any direction desired with your hands free to use patient's arms as levers.

Grasp the patient's wrists and hold against operator's shoulder to lift and then relax by pressing down on chest with other hand as patient breathes. Place apex part of the spinal curve over fulcrum, gently move the balanced body weight, the fingers noting the changing movements in parts concerned. Note also that because of the balanced weight any of these positions can be easily held for as long as desired while general exchange of fluids takes place in edematous tissues with added drainage and nutrition to spinal cords. The help this gives in equalizing the spinal fluid circulation may be no small factor.

Edema about the spinal foramina (as noted in Dr. Burns' research work) is drained, new blood and lymph are fed into hungry nerve centers, engorgements released and possible pleural abscess prevented, while the heart takes a new grip. In flu or pneumonia sometimes let the trained nurse hold the pulse as you begin to work and she will say to her friends, "If I should have pneumonia call an osteopath." Dr. C. Paul Snyder writes *(Journal Lymphatic Research)*: "In cases of pneumonia and allied conditions, there is one master treatment which accomplishes amazing results. This I term the "make and break" movement. With one hand on the heads of the ribs posteriorly and the other on the ribs anteriorly, spring the ribs rhythmically in a line with their angle, alternating the pressure from hand to hand."

Gently turn patient on side or on face—drop one knee and let the head of the patient lower toward the floor for brief flushing of all the vital

centers and draining of thorax. One of our osteopaths insists he could feel that he was really saved during the flu because his physician lowered his head at times during the crisis. Other surgeons do this at threatening moments during an operation; hypostatic congestion which is at least "partly the effect of gravity" (Osler) will be avoided, the heart relieved and the circulation of blood and lymph throughout all segments normalized. It all depends upon the condition of the patient as to what is done. No doubt patients sometimes languish because the heart cannot get the blood up into the elevated vital centers.

Bedside auxiliaries would be another chapter; these would include such simple things as a pillow placed between the sheets at the feet of the patient for warmth and elevation of bed clothes (try it on your own), or a bath towel hard rolled with or without a magazine rolled inside—sort of Chinese pillow, size of rolling pin not pinned but tied with string. The patient will sometimes use this roll as a pillow for occiput or under various segments of spine for resting, lifting angle of ribs, a brace-wedge when on side, to be placed under sacrum or between shoulders for a fulcrum to aid in getting movement of spine and correcting articulations. Dr. Ivy had a series of articles written on this line in the *Western Osteopath.*

The simple way is to have the patient flex both knees against abdomen, then sharply throw over to extreme right and then left (both knees kept together) and then straight down. This corrects many pelvic twists. Many related movements are readily worked out from these.

These methods save time and energy on the part of the operator, but that is aside from the point if it is not equally advantageous to the patient. He is the issue at stake. What are his needs? Where is nature calling for aid and what kind of aid? A little work specifically and carefully done often brings the best response, but we dare not leave the bedside until that relief is given or instituted, and every consideration tendered.

End of Symposium on Visceroptosis—Or the Ventral Side.

The Trend Toward Osteopathy*

RAY G. HULBURT, D.O.

IX

Spinal and other joint subluxations produce sufficient nerve irritation, limitation of motion and tenderness that these effects have been mentioned often by writers of the drug school of medicine, as has been shown in previous articles in this series. Many such writers have also noted changes in tissue consistency found on palpation, and muscle effects including both atrophy and edema. They enumerate a long list of causes of joint disturbances in addition to trauma, such as arthritis, toxemia, infection, posture and many more.

ALTERATIONS IN TISSUE "FEEL"

J. Madison Taylor, who has already been mentioned several times† as noting lesion effects, has called attention often to the altered "feel" of the tissues and emphasized the importance of the tactual sense in diagnosis.

For instance, in discussing the examination of patients suffering from nervousness, he[224] (1925) advised:

> Place the patient face down on a couch, head sidewise on a low pillow, the arms beyond the pillow so as to widen the shoulder blades. Thus for you to get at the paravertebral structures.
>
> Explain your purposes which are to learn where areas of rigidity or deformation and tenderness are in the irritated structures. "Feel" the whole back with the inner surfaces of the fingers (not the ends) through the tactile corpuscles. Structural and sensory changes are readily detectable when one is fully familiar with the normal variations in resistance and sensitiveness of different parts.

In a somewhat earlier article, on backache, he[119] (1925) said:

> Patient lies prone, on as firm a surface as possible. . . . Explore from neck to buttocks by light touch . . . [noting] degrees of relative muscle rigidities . . . in the structures parallel to the mid bone, or yet farther away. These "feel like" taut fiddle strings, and when pulled upon snap back, causing some discomfort or pain. They will also be found tender, often exquisitely so. The site uniformly corresponds to sympathetic distribution from a certain neuromere. In that metamere the center lies from which the particular source of irritation arises.

At another time[147] he (1921) said:

> The average well-taught practitioner makes far too little use of his own hands; he exhibits, indeed, marked distaste for personal manipulations. Furthermore, relatively few are equipped with tactile appreciation of morphologic variants, minor differences in resistance, density, temperature, balance, position, tension, relaxation, rigidity, mobility, adjustability, etc. All these exceedingly significant data, obtainable by means of refined touch, exert a direct bearing on most clinical problems. They are analogous to the exquisite sense perception acquired by the blind, and are within the reach of any one provided one elects to train his muscular sense and touch perceptibilities. . . .
>
> When pain is active in the arms a sympathetic tenderness will be found in the paravertebral tissue adjacent to the vasomotor subcenters from which the part is innervated. This irritability is evidenced by not only sensory changes but by alterations in the consistency of structures involved.
>
> If the disability has become chronic, and the only pain is the distressing ache which follows use, there will be found infiltration and thickening of the paravertebral tissues; disturbances in the alignment of the vertebræ (more apparent than real, due to divergencies in nutrition of the structures involved), and these will return to normal morphology and sensitiveness after the application of judicious hand treatment.

Discussing alleged back injuries, Harney[225] (1926) mentioned cases in which

> they will admit that for several years past they have had backs that tired easily and that of late they have had attacks of rather acute severe pain that disabled them for days at a time, and that they had been led to the belief that they had either lumbago or rheumatism. . . . The present attack was different . . . they sneezed . . . got into a draft . . . car started up suddenly . . . stooped over to lace their shoes . . . turned over in bed . . . fan at the office blew on them . . . they started to push a wheel-barrow . . . they could almost feel something "pop." . . . They will state, "I got over the other attacks of lumbago in a few days, so I am sure this time that I must have injured my back some way." . . . .
>
> On palpation there is found a definite myalgia or painful muscle. These muscles feel hard, like putty that has begun to harden, but do not feel like the tenseness of spastic muscles from protective efforts unless too heavy pressure or palpation is made on them at the start, and if such pressure is made, the muscles quickly take on the tenseness and spasticity of protective muscle effort.

*Previous articles in this series appeared in JOUR. AM. OSTEO. ASSN. for July, 1927, and Jan., Mar., May, June, July, Aug. and Oct., 1928.

†JOUR. AM. OSTEO. ASSN. July, 1927, 896; June, 1928, 781; July, 1928, 868, 869; Aug., 1928, 934; Oct., 1928, 109.

MUSCLE ATROPHY AND ITS EXPLANATION

Effects of joint lesions on muscles, apart from these palpable changes in tissue consistency, have been noted by many writers. As to muscular atrophy, for instance, there are many explanations offered in addition to that already quoted‡ from Cofield[14] (1918) who said:

As the circulation of blood through a muscle depends to a great extent upon the contraction and relaxation of that muscle, it readily may be seen that when a muscle becomes chronically contracted, relaxation disappears and the normal circulation is greatly interfered with, resulting in atrophy of the muscle fibers.

Magnuson[107] (1924) said that in sciatic pain as a result of back strain or injury

There is atrophy of the calf muscles in chronic cases, the fifth lumbar and the first and second sacral, and atrophy of the gluteals as a result of pressure on the superior gluteal nerve, which originates in the fourth and fifth lumbar roots.

Putti[164] (1927) believed that

Naturally an inflammatory reaction in a mixed nerve like the sciatic induces, besides pain, symptoms of trophic, sensory, reflex, and sympathetic nature. Often there is general reduction of the muscles of the whole limb, more particularly of the thigh and leg.

Many others have observed the atrophy of muscles without offering an explanation. Barre and Duprey[180] (1920) mentioned among the commonly overlooked signs in sacro-iliac sciatica

atrophy of the muscles of the buttock, rigid lumbar spine, contraction of the muscular mass on the side of the affected joint. . . . The leg shows . . . slight atrophy of muscles.

Bassin[226] (1927) remarked that

Some patients present a psoas muscle spasm on spinal flexion; in such instances there is evidence of concomitant atrophy of the erector spinæ muscle group.

Langnecker[227] (1915) said that in lesions of the lumbosacro-iliac region, many, especially lumbosacral, showed atrophy of the front of the thigh and that atrophy of other muscles also was consistently noted.

Sicard[184] (1911) said that in sciatica, one should examine for

generalized muscular atrophy throughout the whole limb or localized in the gluteous muscle.

Swaim[199] (1919) told of some interesting back cases, the etiology of which he found it hard to explain, but which he believed to be slight displacements in the spine

close to the sciatic nerve, and in one or two cases the trouble was severe enough to cause atrophy of the muscles supplied.

Among the points to be noted in cases of back strain Wilson[112] (1922) mentioned the circumference of the thighs and legs.

TISSUE SWELLING OR EDEMA

Besides the writers observing muscle atrophy, there have been those who noted tissue swelling or edema. Rosenheck and Finkelstein[166] (1926) observed that

trauma or infection of the sacro-iliac joint creates an edematous or inflammatory reaction in the psoas muscle, which in turn must affect the nerves embedded in its substance.

Wentworth[190] (1926) said that in osteoarthritis (which many medical writers believe to be an important factor in many cases of backache with or without trauma)

The soft tissue swelling about the calcareous deposit is probably usually the cause of distressing tension and direct pressure upon the nerves.

Ridlon and Berkheiser[191] (1923) already quoted,§ had a different theory as to the calcareous deposits and pain. They thought there was a relation between arthritic spurs on the bones and calcareous arteries in nearby regions, and that

Bone spurs are a cause of sensitiveness to pressure, and . . . when in close relation to joints, to movement; but they are not a cause of pain; pain is due to circulatory changes.

BELIEVES BONY OVERGROWTHS A NORMAL PROCESS

Such bony growths are mentioned so frequently that their fuller consideration must be taken up at another time, but it may be worth while here to remark that Wentworth[190] (1926) seems inclined to regard overgrowth of bone as a natural process of age and not necessarily as a result of infection or trauma or both.

We believe that the bone changes called proliferative, hypertrophic, or rheumatoid arthritis, and arthritis deformans, in spines of laboring men, are caused by the long-continued stress of labor, plus an element arising out of bad hygiene (poor mouth hygiene, incorrect kind and quantity of food, poor elimination, and possibly improper protection against the elements). These changes certainly often cause no symptoms, except loss of motion, over long periods of time. Clinical experience is that in the vast majority of cases it is an injury which brings to light the presence of hypertrophic changes in the spine. Apparently individuals can live and work for years in the presence of slowly developing osteoarthritic changes without inconvenience.

Hypertrophic changes cause pain locally on motion and stress; radiating pain by irritation of nerve trunks where they pass through the spinal canal and where they cross the sacro-iliac joint, and referred pain along the course of other portions of nerves supplying involved joints. The radiographic picture of osteo-arthritis is certainly only a part of the disease process.

He also quotes R. Whitman[228] as reporting that in two hundred autopsies, spinal hypertrophies were present in 60% of those over 40 years of age and in 100% of those over 50 years of age. These figures may be too high to be universal. They at least show the prevalence of hypertrophic changes associated with age and hard labor.

He called attention also to George and Leonard[229] (1924), who speak of the vertebræ growing older, just as the arteries and the rest of the body do:

All laboring men who have done heavy lifting and pushing of heavy objects begin to have hypertrophic changes in the lumbar spine after forty years of age. They have noted that these changes appear in the lateral view on the anterior borders of the bodies with greater frequency than in the anteroposterior view on the sides of the bodies.

ARTHRITIS BLAMED FOR BACKACHE, HEADACHES, LEGACHE

Of all the different factors involved in backache and in the various bodily conditions resulting from trouble in the spine, hardly any one is more frequently referred to by orthopedic and general medical writers than arthritis.

Putti[164] (1927) has already been quoted** as ascribing all sciatica to arthritic conditions.

Speaking of headaches, Holbrook[230] (1927) said:

I do think that arthritis of the cervical spine, espe-

‡Jour. Am. Osteo. Assn., July, 1927, p. 896.

§Jour. Am. Osteo. Assn., Aug., 1928, p. 935.

**Jour. Am. Osteo. Assn., Aug., 1928, p. 932.

cially if it is of mild type, is frequently overlooked when headaches are being investigated.

Moschcowitz[51] (1927) said:

I have seen several unmistakable cases of arthritis of the costochondral junctions. The pain is referred to the anterior aspect of the chest, and if it is on the left side, cardiac disease may be suspected. . . . The cause is sometimes unfathomable, but as a rule the history of a sudden violent effort involving the chest can be elicited. In one young girl, the cause was definitely traced to the repeated carrying of heavy books against the chest. The condition, like most arthritides, is quite persistent.

Allison[55] (1927) believed that

It is not always easy to demonstrate definite lesions in the structures of the spinal column and pelvis. On the contrary, most of the backaches elude positive diagnosis, and in consequence, the deductions made as to etiology are likely to be erroneous. . . . The pain and discomfort caused by cervical ribs and cervical arthritis are not felt in the spine but in the distribution of the cervical nerves. This truism is nowhere better shown than in the lesions of the lumbo-sacral junction where pain and discomfort are projected along the nerve trunks of the lumbo-sacral plexus.

Mayer[181] (1913) quoted Patrick as having recently called attention to the frequency of neuritis and neuralgia of the arms and legs and established the presence of arthritis in a large percentage of patients referred to him with these diagnoses.

Discussing backache in women, Paine[231] (1927) expressed the opinion that

When a case which seemingly belongs to the postural group does not get relief at once from proper corsets, one should, before accepting demonstrable pelvic pathology as a probable cause, consider the possibility of a true arthritis condition.

Ward[232] (1926) believed that

The chief causes of backache in women may be ascribed to pelvic disease, orthopedic disease, faulty stance or posture and fatigue.

Eighty-five per cent of gynecological cases examined by him and complaining of backache, he believed, were due to pelvic disease, but in the remaining fifteen per cent, he found osteoarthritis a frequent complication.

Barre and Duprey[180] (1920) complained that

In classic works on sciatica, there is little on the form due to arthritis of the sacro-iliac joint. Surgical works are incomplete on the pathology of this joint. They say little of rheumatic arthritis and sprain. Finally, the nervous effects of these lesions are scarcely touched; sciatica is briefly mentioned, but its special characters are not indicated.

Cross[220] (1926) listed many causes of backache including spondylolisthesis, sacralization, arthritis and focal infection.

Geckeler[177] (1927) lamented that

Many people with backache pass from pillar to post seeking relief from the various cults whose "adjustments" and mechanotherapy or electrotherapy impress them for a while but do not reach the source of the pain.

Among the causes of this backache he mentioned strains, sprains, subluxations, arthritis and lumbago. He added that

Chronic arthritis of the sacro-iliac joint is a part of an infectious process which causes chronic arthritis elsewhere and as such is treated systematically.

ARTHRITIS PLUS TRAUMA IN SPINAL JOINTS

Eagar[202] (1925), writing on spinal hypertrophic arthritis mentioned the great number of articulations in the spine and said:

Any one of these articular surfaces may, as the result of injury, develop an arthritic condition without the other articular processes being of necessity involved. The symptoms, therefore, may be extremely vague and indefinite and a patient may be able to perform many movements without suffering, while some particular movement may occasion most exquisite agony. It is also to be remembered that hypertrophic arthritis of traumatic origin may not manifest itself until long after the injury occurs.

There is no doubt that many cases of so-called lumbago are really, in fact, inflammatory conditions and muscle spasm as the result of such injuries.

Goldthwait[52] (1927) said that

the majority of patients . . . complaining of backache, will be easy to relieve and are capable of ultimate cure.

He warned, however, that

Special manipulations . . . many times relieve the symptoms but rarely do they cure because they have not really corrected the faulty mechanics but simply temporarily relieved the condition. . . .

While the purely mechanical features are responsible for the symptoms . . . if a faulty use of the part is kept up for a long time, weakness of the joints with ultimate true arthritic changes inevitably results and requires such treatment as an arthritic condition would be expected to receive, but even in these cases the correction of the faulty mechanics that made the arthritic condition possible, must naturally be accomplished first.

Kerby[233] (1926) remarked:

The role of trauma is a moot question. Some maintain there is not a pure traumatic arthritis, that the trauma merely serves to produce a *locus minoris resistentiae* for bacterial invasion. It is my opinion that there is a definite relation of cause and effect between trauma and subsequent arthritis in many patients, and this inflammation will frequently be found between the articular facets rather than between the bodies of the vertebræ.

Langnecker[227] (1915) said that one cannot isolate a type of lumbo-sacral lesion as belonging to only one of the groups he mentioned, and that

A traumatized joint may later become the seat of an inflammatory process.

Discussing back pain, Wright[57] (1925) said:

It is the milder lesion, such as a mild arthritis, or such as follows an attack of arthritis, in which probably adhesions are left such as occur in other joints following similar affections. There are also the after-results of the more moderate strains or injuries from which often annoying and persistent pains develop, which may express themselves in the back or in the distribution of any peripheral nerve.

Osgood[18] (1923) in discussing bone and joint causes of low back pain reported arthritis as a common cause. He said:

Degenerative, hypertrophic, or osteo arthritis, using the terms synonymously, is an exceedingly common condition. . . . The symptoms . . . are always exaggerated and may be initiated by either a chronic, static or an acute direct trauma. . . . Manipulations often give temporary ease from pain which is paid for by the subsequent increase in discomfort and disability.

Toxic, infectious or metabolic arthritis, using the terms synonymously, is also a common cause of backache and sciatic pain, sometimes of the so-called sciatic scoliosis. The lumbar spine and sacro-iliac joints are frequently the seats of the process. . . .

We believe that following an injury or sprain of the vertebral or sacro-iliac joints, an irritative arthritis, hypertrophic in nature, is often the cause of persisting symptoms.

Pope[182] (1926) said that trauma is apt to produce the radicular syndrome (which has already been discussed§ in these articles.) He said:

Sometimes we wonder how a very moderate degree of trauma may set up a severe radicular trouble. . . . Perhaps the former has started anew some old condition, such for example as some of the ordinary or hypertrophic arthritic states of the spine. . . .

Sometimes an infective or toxic process has so weakened and prepared the structures that it does not require but a moderate degree of blow, twist, jar, etc., to establish the active factors of the underlying process.

Sever[234] (1919) said that one

common condition complicating these back injuries is hypertrophic arthritis generally quiescent and pre-existent to the injury. The accident usually lights the condition up and so aggravates it.

At another time[235] (1923) he said:

Another common condition complicating these back injuries is hypertropic arthritis in the older individuals, generally quiescent and existing before the injury.

Still again, he[69] (1925) said:

Another most important factor is the actual condition of the spine pre-existing the trauma. . . . There may be a hypertrophic arthritis.

Verrall[82] (1924) pointed out that in lumbo-sacral backache

Arthritis is often of traumatic origin, a relatively mild trauma providing a point of diminished resistance to the attack of the circulating toxin, as so frequently occurs in the joints of the extremities.

NOT UNANIMOUS FOR TRAUMA-ARTHRITIS THEORY

Landenberger[236] (1926) on the other hand, was quite skeptical about the importance of trauma in the development of arthritis:

Sporadic opinions have . . . appeared as to the infectious nature of chronic arthritis. . . . Only during the past 10 to 12 years . . . at last developed definite and satisfactory principles to guide us in this matter. In days gone by, because of the absence of such definite and satisfactory principles, traumatism was blamed for an extremely large percentage of many disabling joint conditions which we are now rapidly learning to be actual disease and in no way resulting from trauma, though often so stated by the applicant to the industrial board to gain compensation. . . .

In discussing the etiology of arthritis some mention must be made of trauma. . . . Should . . . be discussed with great care and explicit rhetoric. . . .

It is a very significant situation when doctors . . . . engaged largely in industrial practice always obtain a history of injury with every case of chronic arthritis . . . while those doctors who have little or no industrial practice never obtain a history of injury . . . yet they may have as many, or more, cases of arthritis. . . .

In the event of a wound of a joint . . . gunshot . . . explosion . . . stab . . . where bacteria may be directly carried into the joint, infection ensues and arthritis develops, we may all fairly and properly call this a traumatic arthritis. . . . Severe contusion of a joint, with or without a wound . . . with or without a fracture . . . kick of a horse . . . run over by a heavy vehicle . . . struck by a heavy moving object . . . followed by a definite arthritis in the joint involved . . . traumatic arthritis. . . . .

In distinct contrast . . . industrial worker . . . painful joint . . . history of an injury a month previously. . . Not severe enough to cause him to stop his work . . . no visible or other signs of an injury . . . teeth and gums are literally rotten. . . . Condition of the joint is not acute but is that of a chronic infectious arthritis with slow progression and is possibly associated with involvement of other joints.

So far as the relative incidence of the occurrence of chronic arthritis in industrial workers is concerned we have no information that they are attacked with any more frequency than other people, even in spite of the fact that they are more exposed to traumatisms.

Traumatic arthritis is a comparatively rare condition. . . . It is a monarthritis and an acute arthritis.

SEE RELATION BETWEEN TOXEMIA, ARTHRITIS

Magnuson[237] (1926) is one who believes that much arthritis is due to high protein intake and poor elimination. He estimates that from twenty-five to thirty per cent can be traced to these causes, and adds:

Many cases have been seen in which there was injury with subsequent joint pain that continued for many weeks and months without apparent cause for the long disability. In investigating . . . our conception of arthritis as being universally due to infection or trauma with infection superimposed has been upset. . . . Pain is frequently more acute during resting periods and immediately after the joints are put in motion. This is contrary to my conception of an infectious inflammation in joints. . . . In this type, after the patient "gets going," he can go fairly well until he sits down and rests for a time, when again the pain occurs and persists until exercise has "limbered him up.". . . It is always slow in onset unless preceded by injury, but frequently goes on to spur formation exactly as the ordinary type of osteo-arthritis, so far as can be determined clinically.

The writers of the drug school who have studied the effects of subluxations, whether they recognized them or not, have discussed in relation to them, not only nerve irritations, limitation of motion, tenderness, changes in tissue consistency, muscle atrophy, bony hypertrophy and arthritis, as shown in this and the preceding article, but also a number of other conditions which will be reviewed later.

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Diabetes—Its Diagnosis and Treatment

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Article XV

DIETARY TREATMENT

"When do we eat?" "What shall we have for dinner?" These are the constant cries of the diabetics who often feel that eating is one of the greatest tasks of life and would be greatly relieved if someone else would undertake the meal planning. It takes great care and a vast amount of information on food chemistry to properly feed such cases, making it impossible to shift the burden from one person to another. Menus may be written but they seldom fulfil the requirements of each individual without changes. The foods designated are not on the market, or the individual does not care for them. By indiscreet choice of foods precious days of life may be lost on account of headache, acute ills, and other conditions, and by continued improper feeding the way is paved for serious impairment of health. For food, most people spend the largest part of their incomes. What a pity that so many buy sickness instead of health.

Many traditions have been handed down from generation to generation regarding food fallacies, prejudices against this or that food, rooted in ancient tribal or religious custom or the result of misinterpreted experiences. Some have called meat the sign of the chase; eating the heart or drinking the blood of a lion was believed by certain tribes the means of gaining courage and warlike qualities in human beings; while some people have and do devote their best energies toward convincing the world that an exclusive farinaceous and fruit diet is best adapted to development and improvement of all the powers of the body. Many a little girl has patiently eaten dry bread crusts to make her hair curl and many a man has counted on the meat he ate to make strong muscles or the fish he consumed to develop his brain power.

In the light of modern scientific research these traditions give way to exact knowledge of what food does for the body and the manner in which it does it. Scientists in many laboratories are constantly studying the laws which govern nutrition, and as they progress in knowledge the dietitian and physician are given new standards by which to choose the food best suited for the different types of people with the same disease as well as the same type in different diseases.

All disease is a result of a chemical unbalance. This chemical unbalance may be due to an incorrect balance or deficiency in the intake of the proper organic chemicals or, we know it may be caused by a structural derangement of the body which interferes with proper metabolism. We are thoroughly convinced that in many cases the structural derangement of the body is a result of the chemical unbalance. It is very easy to see why some physicians get seemingly miraculous results by correcting a structural derangement while in other cases the patient returns time after time because the structural change is secondary, and only after the chemical balance is established will normalcy be maintained in the body.

In order to have the necessary energy to spend in maintaining the chemical balance we must first acquire it from some available source. The human body is composed of sixteen chemical elements, all of which must be supplied in the proper amounts or disease will be the result. The earth contains all of the elements we must have as well as many more, but they are in an inorganic form which cannot be assimilated by the body. By the aid of the sun's energy these elements go through a great clearing house, the plant world, before they become available for the human economy. A short time ago our dietitians thought that if the carbohydrate, protein and fat in the diet were balanced that was sufficient.

When a student of the University of Wisconsin it was always of great interest to me to watch the animals Dr. E. V. McCullum, now of Johns Hopkins, was feeding a balanced diet from the standpoint of carbohydrate, protein and fat. The changes observed in these animals led Dr. McCullum to the discovery of the vitamins, a very important contribution to the science of nutrition. This with the contributions by other scientists on the chemistry of foods has led to the study of the most important phases of nutrition: the reaction of certain types of people to certain chemical types of food. This places one of the most important and complicated phases of nutritional therapeutics on an equality with the anatomical.

"As we sow, so shall we reap," the Bible says. "We are what we eat," say the chemists. The structural integrity of our body determines our health, says the osteopath. The chemical balance and structural integrity is the only assurity of health, says the physiochemist or the scientific osteopathic physician and surgeon.

From time immemorial physicians have said "that which is one man's meat is another man's poison." This is because people are divided into many different constitutions or types. A diet which may cure one man may kill another. In an apparently normal individual it is exceedingly important to study what we eat, drink and breathe. In disease this becomes a most important aid in therapeutics.

When we know the relative and quantitative proportions of the various elements in a given food; when we consider that the human body is composed of sixteen different chemical elements in varying degrees of strength; when we can supply that chemical element or compound which may be lacking in

the body, as for instance, tricalcium phosphate for the bones, or lecithin for the nerves and brain, or potassium chloride for the muscles, or iron-sulphate for the blood; and when we know in which foods to find those particular elements needed by the secretions, blood, nerves or tissues—the question of health and the cure of disease from the dietetic standpoint reduces itself to a certainty.

There can be no doubt that insulin is of great value as an aid to the efficient metabolism of carbohydrate, but as long as it is necessary to administer it two or three times daily and either subcutaneously or intravenously, it is a form of treatment which will mainly be useful in emergencies to tide patients over crises. In the average case of diabetes, glycosuria regulation of the diet is still the least irksome—and certainly the least expensive method of controlling the disease, and when this is based on an accurate diagnosis of the cause, combined with the correct natural therapeutic measures, more lasting results can be secured than could be obtained with insulin or any other similar preparation, which at best have only temporary and palliative effect in the majority of cases, especially if it is used to enable the patient to take a diet in excess of his natural tolerance and not as a true remedy to relieve a functional deficiency of the internal secretion of the pancreas.

Whatever help may be obtained in the treatment of diabetes from the manipulative or insulin therapy, *regulation of the diet to suit the defective metabolic powers of each individual case must still take first place.*

With advancing knowledge and experience the dietetic treatment of diabetes has passed through three stages, progressing from a simple problem with an unknown quantity—the carbohydrate tolerance of the patient—to a complex investigation involving the determination of at least two additional factors: the optimum allowance of protein and the limit beyond which the fat intake must not go. Further progress is still possible, for as already mentioned, it is imperative that the organic salt content of the diet and its richness in vitamins is one of the most important therapeutic aids in the progress of the disease. The aim of the dietetic treatment is to discover experimentally for every patient a proportion of carbohydrate, protein, and fat for daily use which contains the correct organic salts to supply the deficiency for the particular type of person and the disease from which they are suffering, while keeping the urine as nearly as possible sugar free and maintaining the sugar content of the blood as nearly as possible within the normal range, and to supply sufficient energy producing and tissue forming materials to sustain a reasonable standard of health and strength.

In order to compute a diet suitable for any diseased condition it is first necessary to know how to prepare a standard diet for apparently healthy individuals of various ages. In order to do this it is essential to have a knowledge of the metabolism of carbohydrate, protein, fat, vitamins and minerals which go to make up the normal body. This will be discussed in the following articles.

Vertebral Lesions and Gastric Ulcers*

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Ulcers of the stomach and their causes have long been of considerable interest, chiefly because these causes are so vague and so unsatisfactory. Except that some relationship between disturbances of the innervation and the circulation of the stomach and gastric ulcers are vaguely supposed to be of etiological value, very little has, so far, been known concerning the cause of gastric ulcer. The ingestion of infected materials from the mouth and throat, and the regurgitation of chyme and bile from the duodenum are often mentioned as causes of ulcer, yet ulcers occur in many persons who do not show any evidences of such infectious processes or of regurgitation, and there are many undoubted cases of patients with regurgitation from the duodenum who never have gastric ulcer. The number of people who have infections of the tonsils, teeth and other areas of the upper digestive tract is legion—yet only a few of these persons ever suffer from gastric ulcer. About the same relations hold for general infectious processes and for systemic diseases and for various poisonings.

Gastric hyperacidity has long been considered important in the etiology and the diagnosis of gastric ulcer, but it is now known that normal hydrochloric acidities range higher than is ordinarily found in cases of gastric ulcer.

Disturbances in the circulation through the stomach have also been mentioned as causes of gastric ulcer. Anastomosis of the gastric vessels is so abundant that experiments are difficult; it is almost impossible to tie off these vessels in such a manner as to leave only part of the stomach ischemic. Experiments which have been reported give varying or uncertain results. None of these have been performed at Sunny Slope.

Disturbances in innervation are equally difficult of study. The section of gastric nerves causes other serious physiological changes and animals so operated show varying and uncertain results. None of these experiments have been performed at Sunny Slope.

Experiments at Sunny Slope include only the effects of vertebral lesions on gastric ulcer. A few typical cases may be cited. (The technic was that described in July, 1928, in this JOURNAL.)

Guinea pig Group U 12-7. Three guinea pigs born of normal parents and themselves normal were given dorsolumbar lesions January 31, 1927. They were at that time about one year old, and were born of the same parents at the same time. All were killed July 12, 1928.

No. 1. Dorsolumbar lesion found on examination, no other lesions. Tissue pathology such as is usually associated with this lesion. Gastric mucosa normal. Gastric analysis as follows:

Free hydrochloric acid.....18%
Combined acidity 12%
Organic acids, none.

*Read before the section on Gastro-Intestinal Diseases, A. O. A. Convention, Kirksville, Mo., August 10, 1928.

No. 2. Dorsolumbar lesion found on examination, also secondary lesion involving the fifth and sixth thoracic vertebrae. Tissue pathology includes the changes associated with both lesions.

Ulcerated area present on anterior aspect of the gastric mucosa about midway between pylorus and cardiac orifice, and about midway between the upper and the lower borders of the stomach. Many petechial hemorrhages around this ulcerated area. The area itself involves about 1 cm. by 2 cm., irregularly oval in form, with three definite ulcers of small size and many minute spots in which the membrane seems to be about to become eroded. Gastric analysis as follows:

Free hydrochloric acid.....3 %
Combined acidity 08%
Organic acids, none.
Blood, faint trace.

These acidities are within the normal range for guinea pigs of this age, tests being made by this technic.

No. 3 has also dorsolumbar lesions, and secondary lesions which are apparently quite recent involving the third to the sixth thoracic vertebrae. In the latter area the spinous processes of the vertebrae are diverted to right and left alternately, and there is marked tension of the deeper spinal muscles. Pathological changes in viscera as usual in dorsolumbar lesions of several months' duration, but the tissues usually affected by the upper thoracic lesions show only recent changes.

Very small ulcerated area on anterior aspect of gastric mucosa, placed rather nearer the cardiac end of the stomach. Petechial hemorrhages as in No. 2. Gastric analysis as follows:

Free hydrochloric acid 28%
Combined acidity 14%
Organic acids, none.
Blood, none.
Acidities within normal range.

Rabbit No. 2, J 11-8. Born February 27, killed June 11, 1928. Accidental lesions found on examination involved the second to the tenth thoracic vertebrae, with the sixth and fifth vertebrae apparently the site of the primary lesion. Weight of rabbit four pounds five ounces, which is one pound lower than is normal for rabbits of this family and age.

Tissue changes were those usually associated with the lesions mentioned.

Ulcer one inch from pyloric orifice, on posterior wall of stomach. Gastric analysis as follows:

Free hydrochloric acid 23%
Combined acidity 17%
Organic acids, none.
Blood, none.

These acidities are within the normal range for the rabbit of this diet.

Rabbit 6 T 2 C. Born February 6, 1925. Given second thoracic lesion May 1, 1925, at age of about three months. Lesion given by means of several sudden thrusts directed in such a manner as to push the right articular process slightly upwards, the left downward, and the spinous process toward the animal's right. Examined at various intervals from lesioning until the animal's death June 4, 1928. During the months of January to June, 1928, secondary lesions had been found with increasing extent and severity.

June 4, 1928, the original lesion of the second thoracic was found on examination, and also secondary lesions involving all the vertebrae from the fifth cervical to the sixth thoracic. In this area no two vertebrae were quite correctly related, but only the original lesion seemed to be long-standing.

Tissue changes usually associated with the second thoracic lesion were marked and chronic. Tissue changes due to the secondary lesions were evidently of recent origin.

Ulcerated areas near the cardiac orifice, on its posterior wall, were present. Gastric contents nearest this area were distinctly stained with blood. Area involved measured 2 cm. by 3 cm., irregularly oval, including one distinct and several minute ulcers. Gastric analysis as follows:

Free hydrochloric acid 31%
Combined acidity 06%
Blood, present.
Organic acids, none.

Rabbit No. 2, J 4-8. Age about two years. Accidental lesions involving the fifth to the ninth thoracic vertebrae were found on examination. Several ulcers scattered over an area about 15 mm. x 20 mm. near cardiac orifice. Gastric analysis as follows:

Free hydrochloric acid 26%
Combined acidity .....1 %
Organic acids, none.
Blood, occult, trace.

Guinea pig No. 2, J 7. Male. Had been given seventh thoracic lesion April 21, 1927, at age of about ten months. Lesion was given by means of about two hundred gentle pushes directed so as to divert the spinous process toward the animal's right, and to raise the right articular process and lower the left articular process. Secondary lesions involving the fifth and sixth thoracic vertebrae appeared during March, 1928, and remained until the animal's death, June 24, 1928, when the animal was killed by blow on back of the head. Usual pathology of lesioned area and of viscera when such lesions are present. Stomach shows an ulcerated area on the posterior wall near the greater curvature, about midway between pyloric and cardiac orifices. Ulcerated area is about 7 mm. in diameter, roughly circular, and it is associated with an especially marked area of congestion, visible also on the outer aspect of the stomach, which is about 15 mm. in diameter. There is a marked irregular contraction of the gastric muscles forming irregular ridges over and around the ulcers, so pronounced that on palpation the existence of some tumor might have been suspected. Gastric analysis as follows:

Free hydrochloric acid .....1 %
Combined acidity 04%
Organic acids, none.
Blood, occult, none.

Guinea pig No. 5, U 12. Pig had been given second thoracic lesion three months before death; it was about ten months old at time of lesioning. Before being killed second thoracic lesion was found on examination, also secondary lesions involving the third to the fifth thoracic vertebrae; also accidental lesions of the second to the fifth cervical and of the fourth and fifth lumbar vertebrae. All these lesions found by three persons acting independently, and by postmortem examination of the lesioned areas. Visceral and spinal pathology as usual in animals with such lesions.

Several small ulcers were present on the an-

terior gastric wall near the cardiac orifice. Total area involved about 15 mm. in diameter. Many minute petechial hemorrhages around ulcerated area. Irregular contractions of the gastric muscles formed tumor-like masses. Gastric analysis as follows:

Free hydrochloric acid .....3 %
Combined acidity 06%
Organic acids, none.
Blood, occult, very faint trace.

Guinea pig No. 6 U 12. Same family, same age, lesioned in same area and in same manner as guinea pig No. 5 U 12.

Lesions included original second thoracic lesion, with secondary lesions involving the third to the sixth thoracic and accidental lesion at the second lumbar vertebrae. Verified as before. Small petechial hemorrhages in area found ulcerated in pig No. 5 U 12, but no visible erosions present. Gastric analysis as follows:

Free hydrochloric acid 38%
Combined acidity 05%
Organic acids, none.
Blood, occult, none.

All these acidities are within the normal range for the animals reported, on one day's fast following one or two days on rolled barley and water, both carefully measured according to the weight of the animal. Free hydrochloric was determined by using freshly made Congo red paper, titrating with N-100 sodium hydroxide solution in triple distilled water. Total acidity was determined by the use of phenolphthalein as indicator, using the same solution for titration. The benzidin reaction was used for occult blood.

The cases cited are illustrative. Other animals at Sunny Slope have had gastric ulcers, always these animals had either primary or secondary lesions involving the fifth or the fifth and sixth thoracic vertebrae.

Animals with lower thoracic or lumbar lesions often show increased hydrochloric acid percentages when the tests are made during an early stage of digestion. Less marked increase of hydrochloric acid occurs after lesions in other areas. But only when the lesions involve the fifth or the fifth and sixth thoracic vertebrae do ulcers occur, and ulcers or ulcerated areas have been found when the stomach has been examined for animals with such lesions.

The secretion of hydrochloric acid in the gastric juice is a unique process among secretions, and much more study is needed before we are able to understand the various processes concerned. Dr. Leonor Michaelis, of Johns Hopkins University, stated that "The normal tendency is to secrete such an amount of hydrochloric acid as to reach a definitely pH, but not a defined total amount of acid." This statement is in harmony with the experiments at Sunny Slope. Under all normal conditions the total amount of acidity present in the somach varied greatly, but the acidity of the normal expressed juice remained always within certain fairly definite limits for a given technic.

Human subjects also present great variations in the total amount of acid present in the stomach, but always the pH of the gastric juice remains within fairly definite limits. Both in human subjects and animals the pH of the gastric juice varies according to the technic and especially according to the nature of the test meal. Ninety-six consecutive human gastric analyses were studied in the preparation of this paper. The patients included those with gastric ulcers, cancers, neuroses, inflammations acute and chronic, and also several normals. The highest percentages of acidity occurred in gallbladder diseases, some of which reached .45% of hydrochloric acid, free plus combined hydrochloric acidity, in the pure gastric juice. Normal and nervous cases ranged from none to .3%. Gastric ulcers ranged from none to .28%, and cancers from none to .26%. This human material did not include a large enough number of cases with definite bony lesions to permit any findings so far as the relation between lesions and ulcer are concerned. However, in a series of cases recorded some years ago in the clinic of The Pacific College of Osteopathy, it was noted that lesions of the fifth or the fifth and sixth thoracic vertebrae were always present in patients with gastric ulcer, and that while many cases of stomach disease were associated with other lesions or with no lesions at all, these were not cases of ulcer.

The lack of hydrochloric acid in so many patients with cancer, either of the stomach or of other viscera, and in patients with pernicious anemia is one of the many complex problems associated with cancer study. Low hydrochloric acid is not invariably noted in cancer of the stomach, but it so commonly occurs in cases of malignancy anywhere in the body that some pathogenetic relationship is strongly suggested.

CONCLUSIONS

1. Since gastric ulcers occurred only in guinea pigs and rabbits with fifth or fifth and sixth thoracic lesions, and since all animals who had these lesions present for half a year or more had also gastric ulcers, it may safely be concluded that such lesions are the essential cause of gastric ulcer in the animals mentioned.

2. Further study is required in order that the relationship between these lesions and gastric ulcer in the human subject may be definitely determined.

CLINICAL LABORATORY,
THE A. T. STILL RESEARCH INSTITUTE.

UROLOGIC MAXIMS

(From The Urologic and Cutaneous Review)

In an acid pyuria be suspicious of a lesion higher than the bladder.

Make it a routine practice to examine the mouth of every skin or syphilitic patient.

Generally speaking, abortive measures in acute gonorrhea should not be employed.

Be sure to examine the urine of patients showing chronic eczematous lesions in the genital regions.

An indurated prostate in a young man should immediately arouse suspicion of genital tuberculosis.

Success in the treatment of a chronic urethritis is arrived at only through ascertaining the site and character of the causative lesion.

Hematuria following an injury demands a prompt and exact examination to determine what damage has been done to the bladder or kidneys.

Do not be too sure the urinary difficulties of a gray-haired man are due solely to a big prostate. Once in a while you will find stricture of the urethra.

In impassable stricture, insert snugly against it an instrument heated to the highest point which can be borne by the patient. The stricture may then become easily passable.

In the case of a cystitis that does not improve under proper local treatment, you can make up your mind that a tumor, tuberculosis or a pus kidney is present, and there is no time to waste.

THE SECRET OF THE MAILMAN'S SMILE

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enables you to do a lot of good to a lot of people at moderate cost

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OSTEOPATHY, THE EXPLANATION AND THE ANSWER

The greatest statement given out at a notable medical congress is to the effect that lack of blood and tissue oxygenization is the big factor in cancer and most other diseases.

Another authority believes that badly drained intervertebral articulations are disease factors and that "we have no right to complain if certain groups of unqualified practitioners" obtain better results in their efforts.

Neither thought is new to students of osteopathic principles.

It may, however, with justice be argued, says Prof. Blair Bell, that between the predisposing factor, whether it be sudden trauma or one of the long list of agents, extrinsic and intrinsic, that produce the precancerous state by what is called "chronic irritation," but which would be better described as gradual devitalization, *possibly with reduction of the oxygen supply or diminution of the oxidation processes, and the ultimate degradation of the cell to an earlier phase of development,* there is one event at least, possibly several, which determines the change-over from the highly specialized state to the reversionary retreat which enables the previously differentiated cell to survive.

Is any intermediate factor apart from a metabolic change—for example, oxidation derangement —necessary?

If, as a London authority declares, any organ or tissue is subject to cancer and other diseases inversely to the vigor of its circulating fluids—which is only a little different wording of the Old Doctor's statement about the artery—then must osteopathic physicians have in their trained hands the assuaging of body ills, its protection and cure where any cure is possible.

Mastering ptosis and stasis, normalizing the circulation, draining intervertebral and all other parts, clears the toxins and brings oxygen-laden blood into all segments, organs and tissues—this is the D.O.'s special and specific province.

This would seem to be the panacea sought; the great need in the healing art of today—the prince of prophylactic measures.

Proteolytic ferment—colloidal balance—a normal chemistry, vigor of circulating fluids made possible and augmented by osteopathic procedures assures cell oxygenation, protects and heals.

These are the primal factors in the well-being of man. Oxygen supplies that coin of the realm which makes for normal functional activities. Lack of it means poverty, starvation, anarchy and death to the cell.

Here must every student of ostepoathy consider his responsibility in cooperating with body forces and preventing disease, including cancer. Seeing a cancer case early may mean little for the patient as far as the usual methods are concerned. Putting and keeping the whole body to rights structurally, chemically is ever a patient's best assurance of safety and defense.

Perhaps there is, as McDonagh and others contend, but one disease with a variety of manifestations. However, one may conclude osteopathy holds the key to a rational, scientific explanation of the problem and its most practical and effective answer.

ANOTHER VIEWPOINT

Dr. B. C. Maxwell's article in the October JOURNAL is splendidly written. It is reasonable. Most osteopaths reading it will say, "How true it is. Let's have the truth at whatever cost."

The gist of it is, "Let's have all-around schools and all-around doctors by teaching standard medicine in our schools as a supplementary therapy."

Can one beat that argument? No. But one can stand against it for good reasons, which the writer proposes to give here.

No person by inference or plain statement should insist that the limit of osteopathic possibility is in his hands; that he has defined it and that, consequently, medical practice (now in good hands) shall be taught in our schools to save the situation.

Before a person states, "I follow where truth leads me," he should consider an amendment as follows—"I follow truth *as I* see it."

I have no argument against the person who resorts to any outside means to save his patient or to help his patient if he has exhausted his central effort, but I have an argument against teaching it in our osteopathic schools, viz., human nature being what it is, we are subject to a law older than osteopathy—when you vitiate the emphasis on a new idea you threaten its development.

What is the defect in osteopathy which gives rise to the ideas so ably expressed by Dr. Maxwell? The defect is just this—lack of development; and you will never develop it if you meet its lack of development by teaching in our schools a theory and practice opposed to the osteopathic fundamental philosophy.

Surgery, toxicology and emergency practice now taught in our schools give us the necessities we cannot escape. The rest of the real drug armamentarium you may write on paper the size of the palm of your hand, and have plenty of room. For *this* would you subject osteopathic teaching to the jeopardy of vitiated emphasis?

JOHN A. MACDONALD.

OUR OBLIGATIONS

Do we, the older members of the profession, show the interest in the younger practitioners and the students in our colleges that we should? All of us are interested in the subject of preserving the identity of osteopathy. We must not forget to encourage the physican just entering practice nor be indifferent to matters that concern our colleges. The graduate entering practice hasn't the experience that confirms the theory of osteopathy but if he has given the same careful study, thought, time and expense that is required for success in any other profession he will be successful in the practice of osteopathy; the demand for expert osteopathic work is unlimited.

However, it is not a question of demand for this particular therapy, but a question of able, worth-while service. Osteopathy is a lifetime study. It is this point that I wish to emphasize to the student. Mastery of osteopathy is not achieved quickly or by dividing the time to study other methods of treatment. It is a specialty which demands the undivided attention; and this is the reason why many men and women who enter our profession do not prosper as they should and drift into the habit of resorting to other methods of treatment or drop out of practice altogether.

The greatest and most valuable textbook in existence to the physician is the human body. The progressive physician never ceases to study it.

The importance of devoted study of every detail of his college training should be constantly kept before the student; the necessity of building well the foundation for his life work. Our colleges are excellently equipped, our faculties distinguished by specialists of unquestionable ability.

Let us, then, not neglect any opportunity to encourage our young people to study osteopathy—to specialize in manipulative, adjustive osteopathic work which offers the greatest field of endeavor in the healing art.

D. L. CLARK.

OSTEOPATHIC PATHOLOGY

The problems of osteopathic pathology as outlined by Dr. C. P. McConnell in his early research studies were: "First, to determine whether the lesion is in reality an etiological factor; second, the immediate character of the lesion disturbance, and third, how organic life becomes involved."

These problems we began to study in our researches continuing over a period of years on laboratory animals and later endeavoring to apply our findings clinically. There is no question but that careful study of osteopathic pathology will very greatly aid one in his actual clinical work later.

It is the business of every research worker not to assume, accept, prove or disprove, but to determine. Thus our first problem was to determine the nature and effects of interosseous and other structural lesions on normal animals experimentally.

In all, about twenty series of work were done—utilizing from ten to as many as a hundred animals in each series. It was determined that in every instance in normal animals the production of experimental osteopathic lesions cause one or more of the following perverted physiological reactions: Exaggerated respiration, rate and amplitude, increased heart function, rate, amplitude and blood pressure (the increased blood pressure not being due wholly to increased heart rate). In addition to these, in many cases there were increased movements of intestinal musculature. It was interesting, too, to note that in certain secretory and excretory glands, such as the liver and kidneys, there was not only an increase in the quantity of secretion but an actual quantitative increase in the solids produced.

These facts will at once, of course, disturb the student of physiology as it must compel new theories. And right here begins a study of a new and wholly different concept of physiology.

It should be noted that the effects as just stated are the conclusions not of a few experiments hastily done, but of the summaries of many series of experiments performed over a period of seven years and controlled by various workers.

It must also be noted that these are the immediate or "acute" effects of the lesions. This is important because the effects of interosseous lesions of long standing, the chronic lesions, are different, so different in fact that they are usually the complete reverse.

Dogs, cats, rabbits, guinea pigs and monkeys were used, experimental lesions being produced in different regions of the spine. In all of the various series of experiments and in all of the different kinds of animals it was positively determined that interosseous spinal lesions did produce perverted physiological conditions. It was also determined that the organs involved corresponded to regions of the spinal cord from which the nerve supply was derived.

The second problem, the immediate character of the lesion disturbance, the perverted physiological effects of which have been briefly mentioned, was studied directly by dissection. In the acute or recently produced lesions there were evidences of congestion in the spinal tissues at and adjacent to the point of the lesion. The peripheral structures, those receiving nerve supply from the lesioned area, showed evidence, microscopically, of diapedesis and other peripheral vascular and lymphatic perversions.

From acute lesions there were no definite structural cellular changes but there were as stated, the vascular changes present which, if long continued could, and as may be seen later, most probably would result in such changes. Herein, it seems to those who have studied these problems experimentally, lies the distinctive and characteristically different viewpoint in pathology. It is and most certainly should be known as osteopathic

pathology. It offers an explanation of the etiology of structural cellular change.

Call this functional or ultramicroscopic pathology—yet the osteopathic concept of the beginnings, the causes of structural cellular change as determined by experimental research, is clear, logical, distinctive and new and certainly worth careful study and clinical application.

The third problem, namely, "how organic life becomes involved" as a result of such spinal lesions was studied in various ways. The pathological changes in peripheral structural structures were definite, consisting of infiltration of fibrous tissue between glandular structures in the pancreas; albuminous degeneration in kidney structure and granular cytoplasm in liver structure. Those are briefly some of the changes found which serve to illustrate. It is interesting to note that our findings in general, checked very closely—confirmed in fact—the conclusions of Dr. McConnell made several years previously.

J. DEASON.

CASE REPORTS

During the past there have been sporadic attempts to gather case reports. For various reasons, mainly lack of sustained effort, comparatively little has been accomplished.

No one can question the importance of this work. It is second to none in developing professional interest, in increasing scientific accuracy, and in improving clinical efficiency. After all has been said and done, clinical results are the criterion by which either a practitioner or a profession is judged.

It would seem that with the efficient functioning of our organizations concerted action could be obtained in getting this wealth of material together, analyzing the same and presenting it to the profession. Unquestionably it would prove invaluable to everyone, both as a source of really worth-while information and as an inspiration.

It should not be difficult to enlist the interest of everyone in this important matter, for nothing else could possibly mean so much to each one. Several thousand case reports each year would very shortly prove to be a library beyond compute.

C. P. M.

SOME PSOAS SUGGESTIONS

This resume is designed to recall to your attention an unique group of muscles and to remind you of some important physiologic and pathologic factors connected with this group.

The psoas muscles are unique in that they are anterior spinal muscles, originating within the torso and terminating without the torso on the femur.

Arising from the intervertebral substance of the twelfth thoracic vertebra, the transverse processes, the bodies, and the intervertebral substances of the lumbar vertebræ, with what is often considered another head of origin, the iliacus, from the iliac fossa of the pelvis and sacrum, the importance of this group is evident upon consideration of its relations.

Anteriorly we find the kidneys and their vessels, ureters, colon, genitofemoral nerve, and frequently the appendix. (It is estimated that in 45% of men and 20% of women, the appendix is found resting on the psoas.)

Mesially are the lumbar vertebræ and vessels, the lumbar ganglia and the great autonomic plexi of the sympathetic nervous system, the abdominal aorta and the inferior vena cava.

Didactic anatomical reviews are likely to be tiresome, but permit me to mention two more major relations of these muscles.

Recall that the crura of the diaphragm also arise from the upper three or four lumbar vertebræ.

Another significant detail is the location of the lumbar plexus of the cerebrospinal nervous system within the substance of the psoas magnus muscle.

In enumerating some physiological derangements affecting the psoas group, it seems unnecessary to more than mention osteopathic osseous lesions, especially of the lumbar and pelvic structures, as etiological factors.

Referred or reflected irritations from the appendix, colon, ovaries, testes, uterus, prostate gland, genito-urinary tract, sigmoid and rectum are other causes of spasm or contracture of the psoas.

Orificial defects of the lower sphincter-guarded openings are to be considered as sources of abnormal stimuli to this group of muscles.

"Any structural derangement which produces or maintains physiological disorders" (an osteopathic lesion) defines the possibility of one cause of psoas imbalance being the prime factor in other disturbances induced by a psoas lesion.

Osteopathically, we frequently find obstinately recurring lesions of the innominates and lumbar vertebræ. As just indicated, these lesions may be produced or maintained by unrelieved or uncompensated tension of the psoas.

Just as the continual wearing of high heels tends to result in a shortened Achilles' tendon, so the practice of "sitting on the sacrum" or habitually slouched in a position which obliterates the normal lumbar curve of the spine may produce a shortened psoas. "Run-over" heels are another common cause of lumbar and pelvic strains.

Remembering the origin of the crura of the diaphragm, it is not difficult to deduce that lesions affecting the psoas may secondarily interfere with the mechanism of thoracic activity. Contracture of the psoas group always lessens rhythmic respiratory amplitude.

Strains of the psoas muscles are fairly common.

I have found that certain types of exercise are frequent causes of psoas involvement. Particularly to be mentioned are bowling, hand-ball, squash, tennis, golf and baseball.

Consideration of the origin of the psoas from the lumbar vertebræ and its insertion into the lesser trochanter of the femur will indicate how the sudden forceful movements and twists in these sports can initiate psoas spasm.

Lumbar backache which is not aggravated by manipulation of the posterior spinal muscles, but which is increased by jerky pressure or movement producing extension of the lumbar articulations, is probably due to psoas contracture. The gait may be stiffened somewhat because of restriction to the free swing of the thigh. The contraction is usually worse on one side. The right psoas seems to be affected more than the left.

It is beyond the scope of this article to discuss psoas abscess or painful enlargement of the bursa between the tendon of the psoas and the hip joint or of the bursa between the tendon and the lesser trochanter of the femur; the treatment for these conditions may be summarized as rest-surgery.

The technic of relieving psoas contracture is not complicated. Penetrating heat, as from an infrared generator or diathermy apparatus, is very useful. Rest, passive movements, support as from adhesive strapping, belts, bandages, or other means of limiting lumbar motion, have their place in the list of palliative measures.

Correction of the lesion or lesions producing psoas myostypsis is to be attempted before or after local attention as judgment dictates. However, many initiating lesions will be found adjusted after a maintaining psoas spasm has been relieved. Secondary or compensatory lesions of the spine well above the twelfth thoracic are beneficially affected. Particularly is this noticeable at the first thoracic, first rib, and seventh cervical region and also from the third cervical to the occiput.

To lengthen a shortened muscle, stretch it. But observe great caution in applying tension in order to avoid more injury and severe reaction.

Graduated pressure over the lumbar region to spring the vertebral articulations and so stretch the psoas at its points of origin may be comfortably applied, with or without the assistance of the floating lever, while the patient rests prone upon a Taplin table; or on a McManis table, when a gentle stretch may be given at the same time.

With the patient on an ordinary treatment table or on a bed, pressure, always graduated, by one hand on the lumbar region, may be enhanced by gently raising the leg or legs with the other hand and arm. This stretch is further accentuated by having the patient prop the chin on the hands, the forearms vertical.

Remember that a contractured muscle resents quick, forceful movement.

Reduce psoas imbalance and your patient will be able to stand more erect and to breathe deeper. Many cases of supposed or suspected appendicitis as well as backache, recurring innominate lesions, rectal and genito-urinary involvements, et alia, will clear up when normal tone is restored to this unique group.

Please remember that this short sketch is merely a reminder of the only anterior spinal muscles of the torso and is, at the same time, meant to be a marked suggestion that a more detailed study of their peculiar applied anatomy will evince the degree of their great clinical importance.

HEDLEY V. CARTER.

OSTEOPATHIC EDUCATION—COLLEGE INSPECTIONS

Is it likely that osteopathic colleges will soon be subject to inspection and classification by the Council on Medical Education and Hospitals of the American Medical Association? If so, will the published reports and the classifications be unbiased, truthful and fair?

Such questions come up frequently. The question whether such studies will take place may be based on the mistaken supposition that the inspection and classification of medical schools is a matter of law.

The fact is that the *Jour. Am. Med. Assn.* began in 1901 to publish annual educational surveys which showed such bad educational conditions that in 1904 there was organized a permanent committee of the American Medical Association—the Council on Medical Education.

This Council began collecting information about the medical colleges of the country, and in 1906-07 made an actual inspection of all such institutions. In 1908-09 a study of medical curricula was made and a comprehensive report issued. The cooperation of the Carnegie Foundation for the Advancement of Teaching was secured, the second inspection was made jointly with its representatives and the report published by the Foundation secured wide publicity, although it made no classification and suggested no standards. In 1910 the Medical Students Register was established, containing the educational histories of students in medical colleges and the essential data for their identification.

In 1911-12 a third inspection was made, the schools being classified as A+, A, B and C.

Standards were being raised, and by 1914 a year of pre-medical college work was required, which was increased to two years in 1918.

All of this work was undertaken by the American Medical Association and was made possible by the cooperation of medical colleges. It has not been and is not a matter of law.

As to whether inspection and classification of osteopathic schools would be fair and honest if undertaken by this body, we may judge from history. This year the Council on Medical Education and Hospitals reported officially that along with the medical schools and hospitals "every cult or

otherwise irregular medical school of which the council had knowledge" was completely inspected. The American Osteopathic Association has not been able to learn of a single osteopathic institution so examined. The statements in the report, as to conditions alleged to exist in osteopathic colleges, were untrue in nearly every particular.

And so we come back to the original questions. If osteopathic colleges were to be inspected and classified by a partisan body such as the Council on Medical Education and Hospitals, its very latest report shows that there would be nothing fair about it. But since that organization operates without the sanction or support of law, there is no reason to suppose that it will undertake to work in our colleges without their cooperation.

R. G. H.

ULTRAVIOLET LIGHT

A little book of 250 pages gotten out by the Mayo Foundation for medical education and research, contains six lectures by eminent authorities. This 1925-26 issue, published by W. B. Saunders Company, contains a group of lectures on the Biological Aspects of Physiologic and Colloid Chemistry. With those who are doing research and other like reading and study, this book will find a hearty welcome. The price is only $2.50 and the first lecture, by Robert A. Millikan, is the only one we wish to mention at this time. So much has been written about the ultraviolet and other kinds of light, such varied opinions have been offered by those who have studied and used these lights, that one might be almost at sea in considering investments. We know of a few offices which have disposed of and tossed these lights to the attic, declaring they are a snare and a delusion—others are enthusiastic.

In this Mayo book, R. A. Millikan, Nobel prize physicist, gives us a few paragraphs of explanation about the ultraviolet ray as follows:

> In the case of ultraviolet light, this detachment can take place only in atoms which are very close to the surface of the skin, since rays of this sort can penetrate but a very minute distance beneath the surface. The therapeutic properties of these rays cannot possibly, therefore, be due to the direct action of the rays themselves. . . . They must be due rather to the fact that the atoms of sodium and calcium, or the like, have lost electrons under the influence of the light, and have thus gained new combining powers by virtue of this electronic loss, so that they are immediately able to enter into new chemical combinations and form new chemical substances. These substances get into the blood stream and there act as curative agents.
>
> The therapeutic effects of roentgen rays and gamma rays must be due to the same general cause as are those of the ultraviolet light. The rays differ from ultraviolet light in that they have a much higher frequency, a much higher penetrating power, and a much greater ability to jerk off electrons from any and all kinds of atoms upon which they may fall. In thus detaching electrons from the atoms of the tissues through which they pass, they produce all through these tissues atoms which have new combining powers by virtue of the loss of their outer electrons and which, therefore, can form new chemical substances which have curative properties. With these three agencies, then, we may say with considerable definiteness that the first of the chain of acts which makes the rays useful for the physician is the detachment of electrons from the outer shells of atoms and calling into new play of new valences through those detachments.

One of our best authorities emphasizes the fact that the ultraviolet is vitamin D.

By a high financial authority the clients are told that the ultraviolet glass deteriorates.

The best that can be said of all this is that these are simply adjuncts, some of them vital ones. But if we are looking for something that will take the place of careful osteopathic diagnosis and scientifically applied osteopathic treatments, then it simply isn't.

Life is largely a matter of chemistry; the chemistry of life and health is within us and osteopathic treatments may be doing more than we know in liberating vital forces and forming curative chemicals. Osteopathy gets results, often surprising results. Some of these results we may not fully understand. We may be stripping valences, reorganizing electrons and remarshaling the forces of nature building bigger than we know. This should be another fertile field for research.

CHICAGO POSTGRADUATE COURSE

The Chicago College of Osteopathy has received so much encouragement to put on a Holiday postgraduate course that the Board of Trustees has decided to continue the practice.

Beginning December 31, 1928, the clinical postgraduate course will extend throughout the week. It is planned to make this the most practical course ever given by this institution.

NO CHARGES WILL BE MADE

All who are interested in postgraduate work are invited to take advantage of this course. However, you should write and let us know that you are planning to attend that we may have some idea of how many to expect. The work given during the previous Holiday courses has been enthusiastically received, and we have every reason to look forward to a larger attendance than at any time in the past.

Many of the alumni will undoubtedly wish to return for special work and a get-together meeting. The Chicago College of Osteopathy will be pleased to have you take advantage of this clinical work whether you are an alumnus or not.

Bring or send your clinic or private patients for diagnosis or treatment during the week. Clinic cases will be taken care of and no charges will be made except for only such expense as may be incurred for hospital and laboratory services. This will depend, of course on the amount of laboratory work needed and the kind of hospital services desired.

POSTGRADUATE COURSE COMMITTEE:

S. V. Robuck, *Chairman.*
B. F. Wells, *Dean Chicago College of Osteopathy.*
Earl R. Hoskins.

Thirty-third Annual Convention of the A. O. A.

Fort Des Moines Hotel, Des Moines, Ia.

June 17-22, 1929

THE 1929 A. O. A. CONVENTION COMMITTEES

Proud and happy at the prospect of entertaining the A. O. A. in 1929 the Iowa Osteopathic Association has already laid a groundwork for the meeting. Early in September the officers and trustees of the association met and elected an executive committee who since that time have appointed the various committees necessary for a successful management of the coming event. Des Moines holds an enviable record in the matter of conventions and it is the intention of the executive committee with its aids to see that another star is added to the crown. This is the first formal announcement of those who will serve you when you attend the big meeting next year. There may be some minor changes but as a whole the members of the various working units will stand as published. The executive committee has tried to cover every need, but as new features arise the reserve will be used to care for them.

Committeemen and women report to their chairman. The chairman reports to his local executive member. The local executives in turn are responsible to the state committee as a whole which consists of the following membership:

R. B. Gilmour, Sioux City, chairman.
Rolla Hook, Logan, vice-chairman.
C. N. Stryker, Sioux City, secretary-treasurer.
H. J. Marshall, Des Moines.
Della B. Caldwell, Des Moines.
H. V. Halladay, Des Moines.

The following list of appointments under the leadership of the local members have been approved by the State Executive Committee and will immediately start to function:

COMMITTEES OF GROUP I, H. J. MARSHALL, GENERAL LOCAL CHAIRMAN

Train Reception—
J. R. Beveridge, Des Moines, chairman.
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L. L. Wade, Winterset.

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R. W. Morgan, Des Moines.

Golf Tournament—
C. M. Proctor, Ames, chairman.
J. L. Schwartz, Des Moines.

Care of Sightless—
J. W. Macklin, Anita, chairman.
C. E. Thompson, Des Moines.
C. H. Collier, Clarinda.

General Reception—
C. W. Johnson, Des Moines, chairman.
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Still College Reception—
C. W. Johnson, Des Moines, chairman.
Mrs. K. M. Robinson, Des Moines.

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A. J. Collard, Coon Rapids.
D. M. Kline, Malvern.
B. L. Cash, Des Moines.

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J. P. Schwartz, Des Moines, chairman.
J. L. Schwartz, Des Moines.
L. Green, Sac City.
G. C. Trimble, Montezuma.
H. B. Williard, Manchester.
Rolla Hook, Logan.

Health Talks—
Mary Golden, Des Moines, chairman.
C. W. Johnson, Des Moines.
J. E. Gray, Newton.
H. W. Gamble, Missouri Valley.
W. J. Forrest, Carrol.
J. E. Still, Des Moines.

Women's Organizations
Della Caldwell, Des Moines, chairman.
L. Miller, Adel.
M. B. Morrison, Clearfield.
N. D. Thompson, Des Moines.
Avis Payne, Des Moines.
Mildred Trimble, Grinnell.
Katherine Ridgway, Des Moines.
Mrs. J. K. Johnson, Sr., Jefferson.

Examinations for Physicians—
M. E. Bachman, Des Moines, chairman.
Sherman Opp, Creston.
J. K. Johnson, Sr., Jefferson.
W. C. Gordon, Sioux City.
E. S. Mitterling, Webster City.
C. F. Spring, Des Moines.

Allied Societies—
C. N. Stryker, Sioux City, chairman
E. E. Steffen, Des Moines.
M. Biddison, Nevada.
J. K. Johnson, Jr., Jefferson.
S. H. Klein, Des Moines.

Halls and Furnishings—
H. V. Halladay, Des Moines, chairman.
D. W. Roberts, Des Moines.
R. E. Brooker, Grinnell.
F. D. Campbell, Des Moines.
J. W. Rinaberger, Keosauqua.
C. J. Chrestensen, Keokuk.
F. Lindblom, Des Moines.

COMMITTEES OF GROUP III, H. V. HALLADAY, GENERAL LOCAL CHAIRMAN

Registration—
Paul Park, Des Moines, chairman.
C. N. McMullen, Des Moines.

Publicity—
H. V. Halladay, Des Moines, chairman.
A. W. Clow, Washington.
Della Caldwell, Des Moines.

Information—
Miss Ava Johnson, Des Moines, chairman.
Ellen Phenicie, Des Moines.
Helena Messerschmidt.

Program Publication—
J. L. Schwartz, Des Moines, chairman.
W. E. Butcher, Des Moines.
Raymond Kale, Des Moines.

Hotel Reservations—
J. M. Woods, Des Moines, chairman.
J. O. Woodmancy, Des Moines.
George Hamilton, Des Moines.

Local Section Committee—
R. B. Bachman, obstetrical, chairman.
C. W. Johnson, nervous and mental.
J. P. Schwartz, surgical.
B. L. Cash, x-ray.
H. J. Marshall, E. E. N. T.
S. H. Klein, technic.
Mary Golden, pediatrics.
J. L. Schwartz, orificial.
C. M. Proctor, gastro-intestinal.
Mrs. Z. A. Innes, laboratory.
C. I. Groff, foot.

Local Exhibit Committee—
C. F. Samp, Des Moines, chairman.
E. E. Steffen, Des Moines.

Department of Professional Affairs

RAY B. GILMOUR, Chairman
Sioux City, Iowa

HOSPITALS AND SANITARIUMS

ARTHUR D. BECKER, Chairman
Kirksville, Mo.

RIVERSIDE (CALIF.) OSTEOPATHIC HOSPITAL AND SANITARIUM

The new osteopathic hospital and sanitarium at Riverside, California, was open for public inspection September 8 and 9.

This hospital is the outgrowth of a community hospital, in whose cost the whole city was asked to share, according to Dr. Howard C. Atwood, a member of the staff. There was promise of equal facilities to all practitioners. However, it became apparent that the osteopathic physicians were not going to be allowed free use of the hospitals—or in fact any use, except under difficulties so great as to render real service to their patients almost impossible.

The friends of osteopathy who had subscribed were so loyal in standing by the profession that the hospital campaign committee was compelled to make good the promise in the only way which seemed feasible, namely, the furnishing of a separate and complete unit.

The osteopathic hospital and sanitarium association was therefore organized with active and life membership and a lay board. The Women's Auxiliary of the Community Hospital furnished linen and blankets, but the organization of a separate auxiliary is said to be under way.

Dr. Errol R. King is chief of the advisory staff, other members being his wife, Dr. Hildegard King, Dr. W. H. Thompson, Dr. A. E. Gooden, Dr. R. H. Galbraith, Dr. Howard C. Atwood, Dr. T. L. Lorbeer, Dr. Helga Peters and Dr Elizabeth Blake.

Mrs. I. B. Banks, wife of a former naval surgeon of Key West, Fla., and an expert in nursing, has been named chief of the nursing staff and virtual superintendent.

The Board of Directors has issued a statement, saying in part:

"Riverside's Osteopathic Hospital and Sanitarium opens its doors to what we believe is a great community need, a hospital in which all reputable and responsible practitioners of the healing art licensed by the State of California who conform to the rules of the board of directors may care for their patients, a hospital not dominated by orthodox medicine.

"The organization is a nonprofit community institution. All members of the board of directors are laymen, the by-laws forbidding any practitioner of the healing art membership on the board. Members of the association consist of persons contributing five dollars or more annually, contribution of one hundred dollars constituting a life membership. Each member has one vote at the annual or other called meetings.

"Riverside's Osteopathic Hospital and Sanitarium begins its ministrations in the building at 1295 Walnut street, this building and equipment being provided by the Riverside Community Hospital association who have also given a portion of their share of the Community Chest fund to aid in starting the new hospital. The Women's Auxiliary of the Community Hospital has contributed a generous supply of linens and blankets. The Charity Tree was among the first to contribute $100 to assist in launching the new organization.

"There are accommodations in the hospital and sanitarium for eight beds and six cribs. There is an operating room, nursery, sterilizing and utility room, diet kitchen, solarium and laboratory.

"The electrical equipment is complete, all rooms have convenience outlets as well as fixed lights. Head sets in each room will connect with a central radio installation. Each room and ward is provided with a signal system accessible from the beds and communicating by lights simultaneously with the office, the nurses stations, the diet kitchen and sterilization room.

"All nursing will be in charge of graduate nurses.

"Charges for accommodations and general care will range from $5.00 to $7.00 a day for the present, these amounts just about covering the actual cost.

"Annual membership is $5.00 or more. One hundred dollars constitutes a life membership."

ROCKY MOUNTAIN OSTEOPATHIC HOSPITAL

The Rocky Mountain Osteopathic Hospital began during the summer the publication of a monthly bulletin edited by Dr. C. R. Starks.

It has been arranged to conduct a clinic day every month, to study the difficult cases and to provide the advantages of laboratory work, including x-ray and special examination.

OSTEOPATHIC SANITARIUM AT RALEIGH, N. C.

Dr. A. R. Tucker, Raleigh, N. C., has announced the opening of the Tucker Sanitarium at 126 Halifax street.

CLEVELAND (OHIO) OSTEOPATHIC CLINIC

The Cleveland Osteopathic Clinic is one of the latest organizations to the credit of osteopathy. Incorporated under the laws of Ohio, it brings together an exceedingly able group of men capable of generally covering the range of modern practice.

At the head of the department of osteopathy is Dr. Clarence V. Kerr, who has been in active practice in Cleveland since 1900. Dr. R. A. Sheppard is at the helm in the department of surgery and obstetrics. Dr. E. C. Waters is devoting his energies to gastro-enterology and diseases of the rectum. He is equipped to carry out the Schellberg technic in properly selected cases. Dr. Gilbert Lane Johnson, whom many will remember as one of the associates in laboratory work of the late Michael A. Lane, directs the clinical laboratories and is majoring in diseases of the heart and lungs. Dr. Raymond P. Keesecker, who was formerly on the faculty of the Kirksville College of Osteopathy, is in charge of the department of roentgenology and in practice is specializing in genito-urinary diseases. Dr. Ralph D. Vorhees, who was associated with Dr. Hardy at the Laughlin Hospital and who taught pathology in the college, is director of the department of eye, ear, nose and throat. In addition to complete and modern laboratories and surgery, the Cleveland Osteopathic Clinic maintains a two-bed hospital room for emergencies. The roentgen ray equipment is the Victo installation and is the last word in efficiency. There is a department of phy-

siotherapy, and the ultra-violet and infra-red modalities are utilized.

SURGICAL CLINICS IN IOWA

The Des Moines General Hospital staff is cooperating in a movement for the holding of surgical clinics in various parts of Iowa. Independence is one of the cities taking advantage of the service.

OSTEOPATHIC HOSPITAL AT LOGAN, IOWA

Dr. Rolla Hook, Logan, has purchased a dwelling and remodeled it with office and treating rooms downstairs, and operating and hospital rooms upstairs for major and minor surgery and obstetrics. X-ray and physiotherapy equipment are included.

OSTEOPATHIC SANITARIUM AT ST. JOSEPH, MISSOURI

Dr. T. O. Pierce, St. Joseph, Mo., is reported as having acquired possession of a sanitarium which has been running since 1909. Dr. Pierce has remodeled and enlarged the place which will be devoted to the care of chronic and constitutional diseases by natural methods.

DAYTON OSTEOPATHIC HOSPITAL

The Dayton Osteopathic Hospital, Dayton, Ohio, is the same institution which operated for two years under the name of the Miami Clinic. It is publishing a monthly bulletin called *The Osteopathic Digest.*

MARIETTA (OHIO) OSTEOPATHIC CLINIC

The Marietta Osteopathic Clinic recently published a beautiful sixteen-page folder containing illustrations and descriptions of the institution, with an explanation of osteopathy and a few facts as to its development.

WOOSTER (OHIO) OSTEOPATHIC SANITARIUM

Dr. S. Gertrude Crandell, Wooster, Ohio, and associates, bought a fine residence property in the summer, and immediately began remodeling with the idea of providing a good hospital, with service that should include physiotherapy and diet.

TULSA, OKLAHOMA

Dr. Ralph W. Howes has reported that a brick building with 12-bed capacity, modern equipment and operating room had been leased and would be used as a hospital, with Dr. John Halliday in charge, until permanent arrangements could be made and a larger hospital erected.

BASHLINE & ROSSMAN HOSPITAL, GROVE CITY, PA.

The next quarterly clinical meeting is to be held November 14, 15. Dr. A. D. Becker, Kirksville, will deal with osteopathy, and Drs. Bashline and Rossman with surgery, diagnosis, history, etc.

COUNCIL UNRAVELS HOSPITAL TANGLE

A matter of great public interest has been disposed of through the unanimous recommendation of the city council of Ottawa, Illinois, relative to rules governing the Rayburn-King Hospital of that city.

This action by the city council was the outcome of discriminatory rules enacted by the hospital management, which debarred osteopathic physicians from the facilities of a public hospital.

A committee of the city council adopted and presented a resolution, to the president of the board of hospital trustees, recommending the appointment of a male manager who would have power to select a superintendent of nurses and conduct all business affairs of the hospital. In addition, this committee asked that the rules governing the elegibility of practicing physicians served by the hospital be extended, impartially, to legalized osteopathic physicians.

—*Pontiac (Ill.) Leader.*

Department of Public Affairs

HUBERT J. POCOCK, Chairman
C. P. R. Bldg., Toronto, Ont., Can.

THE VALUE OF EXHIBITS

Students of our professional problems, recognize the fact that visual demonstration of our work arouses the interest of the public. Exhibits are one of the best means of bringing home the importance and value of our profession. Dr. E. C. Brann of Wichita, Kan's., who is in charge of this department, and who is giving his time and energy to developing this work, realizes more than any other man in the profession, the value of such exhibits.

Thousands and thousands of pieces of literature have been distributed during past years through this medium. People have the opportunity of conversing and discussing their problems with those in charge of such booths. Experience has shown that there is no better way to reach the multitudes.

We have not done enough in this great field and it is now time for us to wake up and assist the laity to think osteopathically. Such a campaign would aid the locality in which you live in more ways than one and it would also assist your colleges in securing additional students.

If you contemplate such a campaign in your city, or town, write Dr. E. C. Brann immediately and he will give you complete co-operation.

This is just one of the departments which comes under Public Affairs, and it is to your interest to make it a success.

BUREAU OF CLINICS

VICTOR W. PURDY, Chairman
725 Caswell Bldg., Milwaukee

SKYSCRAPING

We are living in a generation of skyscraping. The vast change in the skyline of every large American city during the past generation closely parallels the history of the accomplishments, far-reaching as they are, of organized osteopathy.

An example of one of our skyscrapers was portrayed in the September issue of *The Western Osteopath.* Unit Number Two of the Los Angeles County General Hospital is a monument, serving as a living tribute to a steadfast faith in osteopathic principles and practice. The personnel of this remarkable institution have been many years preparing for just this. Long service is the oil that lubricates the machinery and makes possible an efficient and smoothly running organization; and the team work of these doctors, acquired through years of intimate association, reinforces sound judgment and practical experience.

We have other skyscrapers to be justly proud of. Here is the story of the New York Osteopathic Clinic as given by the registrar:

"Thirteen years ago, in July, 1914, the New York Osteopathic Clinic was opened in a small stable located at 35 East 32nd street.

"The little red brick building, with its fresh curtains and window boxes filled with scarlet geraniums, caught the eye of the passers-by in one of the most crowded blocks of the city, and it was of interest to old New Yorkers, who had known the building as the private stable of A. T. Stewart, one of New York's foremost merchants of bygone years.

"In less than a month after the clinic opened the tragedy of Sarajevo was shaking Europe to its centre, and following close came the declaration of the war in which the whole world was to become involved. It was shocking but 'so remote,' we thought, little dreaming then that America would be drawn in and that our little clinic would ere long be giving of its best to our own shell-shocked soldiers and sailors and marines.

"The winter of 1914-15 brought financial depression to America. People out of work who had never before faced hard times came for osteopathic care and went away benefited in body and mind.

"Hundreds of men, women and children were passing through our hands and we knew that the osteopathic clinic, the first and only one of its kind in this great city full of medical hospitals and clinics, had come to stay.

"But there were discouragements, and sometimes we wondered how we could 'carry on.' We were outgrowing the little stable, and we became so surrounded by skyscrapers that light and air were cut off. There was no prospect of having our own building, as the cost of land and the erection of an adequate plant seemed beyond our fondest dreams.

"We continued to wish, and think, and plan, until there came a day when the whole profession rose up as one man and said, 'We must raise the money and have our own

osteopathic home.' So in March, 1925, a campaign to raise money for a new building was successfully carried out, and today the dream of years has come true.

"The New York Osteopathic Clinic owns a strip of land on Manhattan Island which will be of increasing value as the years pass, and on it stands a building of which the directors and the osteopathic profession may well be proud. Into this creation have been put the best efforts of the directors, doctors, architects, builders and artisans. It has been a labor of love as well as the work of skilled minds and hands.

"Only the future can tell what the outcome will be, but looking back over the years of hopeful labor which have brought this accomplishment to pass, and recalling the untiring efforts of the men and women (some of them gone to their reward) who have contributed to this hour of happy fulfillment, we can truthfully say that we 'have a goodly heritage.'"

"HAVE A HEART" TAG DAY, CHICAGO

The Osteopathic Free Clinic for Children, Chicago, came in for a good slice of the money collected on the annual "Have a Heart" tag day, held in connection with the Chicago Federated Charities. $2,565.10 was the amount handed over to the osteopathic institution.

The first osteopathic free clinic at the Missouri State Fair, Sedalia, Mo., was a decided success, an average of fifteen cases a day being cared for. In addition to these there were a number of emergency cases treated. Cooperation was given by osteopathic physicians from surrounding cities.

Dr. H. B. Bannister, Marceline, Mo., conducts a free clinic for children under 12 years of age every Friday afternoon from 3 to 6.

Dr. John A. Carter, Saugus, Mass., now conducts a clinic one day a week.

Under the auspices of the Ottawa Kiwanis Club, Ottawa, Ill., a free clinic was recently conducted by Dr. Ira W. Drew of Philadelphia. A total of 212 children were examined in the three days given to it. Dr. Drew also conducted a clinic at Marietta, Ohio.

The East Bay Osteopathic Clinic, Oakland, California, selected a new board of directors. They are Drs. L. G. Harris, James H. Bell, Kenneth Palmer, J. R. Morris and G. M. Peckham.

THE PIERCE COUNTY CLINIC, TACOMA, WASHINGTON

On Saturday, August 25, a child's free clinic was conducted by the Pierce County Osteopathic Society, on the eighth floor of the Fidelity Building, Tacoma, Wash. This was the second of the series planned. The results were indeed gratifying to the doctors participating as well as to the parents.

A total of 206 children were examined. During the day a great many more applied for examination, but owing to the number already registered, it was thought inadvisable to admit more. The first child arrived before 8 a. m. and the last examination was not completed before 6:30 p. m.

So many examinations were scheduled that no time was allowed for operation during the day. However, a number of children have since been operated and appointments for others have been made according to the announcements made previous to the clinic in the press. All children between the ages of 4 and 16 were eligible.

Drs. Smith and Brown of Aberdeen and Dr. Walch of Hoquiam assisted the doctors of the county. Drs. McKay and Hook made the examinations in the ear, nose and throat department. Some of the cases presented badly infected tonsils and enlarged adenoids. Drs. Sawtelle and Thomas examined for visual defects.

Drs. Deane, Goff and Montgomery examined the heart and lungs. Drs. Utterback, Brown and Walch made general physical examinations and Dr. Herbert Stotenbur examined feet. Dr. Ogle made the examinations of the lower orifices.

The appropriate care was advised by the doctors making the examinations. Dr. H. Willard Brown handed the parent a card containing a list of the local doctors who put on the clinic, also a piece of osteopathic literature, and he examined carefully the report as furnished by the doctors advising the necessary treatment in the particular case.

The wives and daughters of some of the doctors assisted. A total of thirty made up the staff.

Lunch was served in relays. Some of the doctors and nurses did not have the opportunity to leave the building. At 6:30 the group met at the Hotel Winthrop for dinner.

Ours is a land of opportunity. In our underprivileged child work in our clinics, we are giving the deserving boy or girl a boost towards whatever goal they are trying to attain. In some of the older civilizations it is almost impossible for a boy or girl in the lower strata of society to pull out of his or her environment. In our section of the world, thanks to the many clinics, social service agencies and other organizations of a like character, the sky is literally the limit.

Every time you help an underprivileged child it sets an example that some will follow in helping others. It puts into the world an appreciative person who, remembering his own experience, will help others. Thus we establish an endless chain which will work out to the advantage of generation after generation and make the world a better place for all time.

We are met on the ground of a common cause
Just to serve and to build, not destroy,
For we know that the girl is our priceless pearl,
And the nation's great wealth is the boy.

This interesting and practical letter was sent by Dr. John A. MacDonald, Boston, formerly chairman of the Department of Public Affairs:

September 28, 1928.

Mrs. Isabel Brown, Secretary,
East Bay Ostopathic Clinic,
3630 Telegraph Avenue,
Oakland, California.

Dear Mrs. Brown:—

Dr. Perrin Wilson handed me your letter of August 27th addressed to the Massachusetts Osteopathic Hospital secretary.

In the A. O. A. Public Affairs Department, of which the Bureau of Clinics and the Bureau of Industrial and Institutional Service are parts, we found we could not get effective clinics to attract the attention of industries and institutions to any greater extent than one could get private physicians working in that service.

The industries and institutions were not attracted, and if they had been the response would have been questionable. So, as chairman of the Department, I proposed that we have four or five already organized clinics, say San Francisco, Chicago, New York and Boston, use the already organized effort to demonstrate a practical automatic plan of industrial and institutional service.

Our clinic here in Boston in the Massachusetts Osteopathic Hospital is already working along the line proposed. The plan is involved in the following:—

Among our patients are many who work in plants and who live in institutions. When they are helped they send others from these places. We shall simply keep records of these cases, and be able to tell in a year or so how many of these people we see and what we do for them.

In Massachusetts the State regulation of clinics demands social data on every patient admitted. This data helps the State social work and prevents imposition on us.

We believe that we shall attract the attention of industries and institutions as soon as the number of these people treated increases to a point which will make the industries and institutions realize that we are taking a problem off their hands.

The essential to the plan is careful social data recorded and compiled when the increase warrants it.

We believe that this automatic plan, which promises to show records of work done, will more definitely attract industries and institutions to us than any propaganda we may institute in promises to perform.

The natural course of events will furnish us our efficiency, and the problems which arise in such clinic work will be tried out and solved by actual experience instead

of risking the stasis which is so deadly to an organization waiting for work while the demand for its services is being created.

Here is the machinery all ready. All we have to do is to record the help we are giving plants and institutions. We want to be able to say in a year or two:—

"Since . . . we have helped to maintain in part the personnel of forty New England industries, and we have helped . . . people in Massachusetts institutions who had not been helped before."

Yours very truly,
(Signed) JOHN A. MACDONALD.

INDUSTRIAL AND INSTITUTIONAL SERVICE

E. A. WARD, Chairman
601 Second National Bank Building, Saginaw, Mich.

A NEW COMMITTEE

A change of plan in conducting this bureau has been started this year by creating a National Committee on Athletics. Its purpose will be to promote interest among our physicians to act as athletic directors, and athletic team physicians. Through the Central office and the various state chairmen, this committee will make contact with every athletic director in this country and Canada, to educate them to recognize the superiority of our physicians in supervising the health of athletes. The committee is as follows:

Chairman, Dr. Frank Moon, athletic director of Cotner College, Lincoln, Nebraska, director of the coaching and training of the football, basketball and track teams.

Dr. Harold R. Shickley, Lincoln, Nebraska, in charge of the athletic teams of Nebraska State College.

Dr. John J. O'Connor, Toronto, Ontario, Canada, in charge of the St. Patricks, world's champion polo team; also the Argonauts, a famous Canadian football team; club physician, St. Michael's College and Balmy Beach rugby club, last year champions of Canada. In Canada these city clubs have a higher rating and a greater following than any of the colleges.

Dr. Louis Brown, Fort Wayne, Indiana, prominent in athletics for many years.

I wish to compliment the members of this committee for the promptness in accepting their appointments and their wholehearted willingness to cooperate with each other. All of them are outstanding physicians in their respective communities, and they represent the type of physicians that by hard work and self-sacrifice to help others will put us in the front rank as a school of medicine.

RECENT PROGRESS

To show our recent progress in athletics here are a few items of unusual interest:

Dr. Fred J. Baer, East Stroudsburg, Pa., who treated Gene Tunney before his Philadelphia battle with Dempsey, treated Johnny Farrell, national open golf champion, and Archie Compston, a big British professional golfer. Some time previous to that, he had conditioned Mr. Henry Ljungmann, the champion ski jumper of Europe, who was under Dr. Baer's care for three weeks. He has also treated Leonard Seppella, the man who drove a dog team to Nome with antitoxin.

Miss Mary Alcott Richardson, Glen Ellyn, Ill., fifteen years old, won a motor boat race from Milwaukee to Chicago this summer. Eighty-six entered and four finished against a rough sea and a strong wind. Miss Richardson made the hundred miles in four hours and two minutes. She takes her osteopathy from Dr. Louise Agnes Standish.

Jersey City, N. J., newspapers of September 20 stated that Dr. Daniel Donovan, osteopathic physician, would probably continue in the employ of the school board.

It is reported that Dr. S. E. Curran, a graduate of K. C. O. S., recently located in Lewistown, Montana, has been selected team physician for the Fergus County high school. An interesting coincidence is the fact that the coach of the same team is a graduate of the Kirksville Teachers' College.

Dr. Forrest (Phog) Allen, director of athletics at the University of Kansas, is president of the National Basketball Coaches Association.

Many have read of the recent treatment of Tony Lazzeri, of the New York Yankees, who was put back into the game after treatment of his lame shoulder by an osteopathic physician in Germantown, Pennsylvania.

I am pleased to announce that Dr. E. O. Millay, Montreal, Canada, for many years prominently interested in industrial service, has been appointed chairman of industrial and institutional service in the Provinces of Quebec and Ontario, Canada. He is a valuable addition to our other efficient members.

The following members were appointed in their respective states as chairmen before my tenure of office and will continue in that capacity for the coming year:

Arkansas—A. H. (Colonel) Sellers, 512 National Building, Pine Bluff.

Colorado—T. E. Childress, Century Building, Durango.

Georgia—Marion A. Conklin, 1019 Wynne Claughton Bldg., Atlanta.

Illinois—R. N. MacBain, 25 Washington Street, East, Chicago.

Indiana—G. F. Miller, 564 Farmers Trust Building, Anderson.

Kentucky—J. W. Lawrence, 301 Guthrie Building, Paducah.

Maine—Mason Allen, 507½ Congress Street, Portland.

Massachusetts—Amy Schaffer, 1 Parker Street, Cambridge.

Minnesota—S. H. Stover, Bemidji.

North Carolina—T. M. Rowlett, 403 Cabarrus Savings Bank Building, Concord.

Ohio—L. R. Mylander, 215 East Washington Street, Sandusky.

Pennsylvania—Henry Bellew, 3409 North 15th Street, Philadelphia.

Tennessee—J. T. Blankenship, 118 North Spring Street, Murfeesboro.

Virginia—C. C. Akers, Medical Building, Lynchburg.

Their duties are to assist the bureau in their state by accumulating any information that they can relative to plants, plant papers, bulletins, state industrial boards, schools, colleges, lodges, clubs, department stores, etc. The bureau chairman is anxious to give a report at the next annual meeting of the A. O. A. of service being rendered industries and institutions by osteopathic physicians, and of the possibilities of service to be rendered in the future. It is only by the collection of such data that we will be able to work out a definite plan of action for the extension of this service.

There is evidence of activity throughout the country by this bureau. We are receiving inquiries about the work as physicians in coal mines, factories, etc.

We find many examples of the other schools of medicine entering industrial health fields. We must make room for our physicians in this important work. It is only reasonable that the first consideration of every employer should be the health of the employe. Good health is recognized by all today as one's greatest asset. To develop health interest in every organization is our duty, and to increase the recognition of our superiority as a school of medicine is the purpose of this bureau.

PUBLIC HEALTH AND EDUCATION

ARTHUR E. ALLEN, Chairman
Metropolitan Bank Bldg., Minneapolis, Minn.

OSTEOPATHIC LITERATURE IN PUBLIC LIBRARIES

Placing osteopathic literature in reading rooms of clubs and libraries is a very effective method of introducing our principles and practice to the public. The simplest method of finding out if that can be done is to ask permission directly of the manager or board of directors. Very likely no names will be allowed placed on this literature, but after all we are still pioneers and we must be willing to help those who will follow us as well as ourselves and each other.

Dr. Louis E. Browne of Fort Wayne, Indiana, writes, "Every month a copy of the OSTEOPATHIC MAGAZINE goes to each branch of the Fort Wayne Library, the high school libraries, the American Legion Club, the Y. M. C. A., the Y. W. C. A. and the Catholic community center. Dr. C. N.

Cain of the same city contributed a copy of Webster's Concerning Osteopathy which was placed in the library and a movement is on foot to put Booth's History there also."

Good work, doctors! If only each of our profession who is not doing something of this kind could realize the actual loss involved to themselves, the subscription list of the O. M. would be tripled over night.

Public education to a great extent must necessarily lie in the hands of the individual physician. What he says, what he does, what he looks like—in short, his personality, is constantly putting out a very definite form of educational publicity. If that is good the O. M. will improve it, if it is bad the O. M. will help counteract it. In either case the magazine will increase contacts and it is contacts which make a business grow.

As with magazines so with books. We may be certain that no medical books on the subject of osteopathy are going to improve our standing in the community. So if for no other reason than self protection every osteopathic physician should see to it that the library in his or her locality is supplied with books giving truthful statements concerning the osteopathic profession.

This matter of placing osteopathic literature and publications before the public is a very important piece of work, but this chairman could write until he had writer's cramp and get nowhere if the balance of the profession waited for the other fellow to start. Surely we can all agree on the value of the printed word. Why not try a little co-operation on this matter and see what can be accomplished? Maybe better co-operation can be attained in other things when this attempt proves successful.

If by chance or mischance you have read this far, will you be willing to check up on the present amount of osteopathic fact in your public library? Will you be willing to check up on the amount of osteopathic literature available in the reading rooms of clubs and organizations in your city? Will you then personally, or with the help of others you can enlist, do what is possible to spread the truth about the methods you employ to make your living? When you have done these things, drop me a line so we can show "Uncle Henry" that our "arches" are improving.

OSTEOPATHIC EXHIBITS

E. C. BRANN, Chairman
705 First Nat'l Bank Bldg., Wichita, Kans.

FAIR TIME IS OSTEOPATHIC EXHIBIT TIME

At the Illinois Fair this year the Illinois Osteopathic Association had an exhibit and a clinic. It has been reported a grand success.

Missouri State Association had an exhibit at the Missouri State Fair. It was reported a success and that the public were taking a great interest.

The Des Moines Still College had an exhibit at the Iowa State Fair this year, which created much interest and comment among the laity.

Dr. W. A. Seydler of Loveland, Colorado, was asked by one of the banks in Loveland to put an osteopathic exhibit in one of the windows they have for educational purposes. Dr. Seydler is arranging this exhibit and has given it the title of "Osteopathy on the Map." His idea is to have pictures of all osteopathic institutions, the location of these institutions marked on a large map, and run a ribbon from the location to the picture. This is a unique idea and it will be sure to be an attractive one.

This idea of an exhibit in the windows of banks or other buildings can be made far reaching. This idea can be carried out in any town in the world where there is an osteopathic physician.

STATE LEGAL AND LEGISLATIVE

ARIZONA

Dr. D. L. Conner, Phoenix, Arizona, reports that the osteopathic profession in that state is joining with other forces in the initiation of an amendment to the state constitution to be voted on at the general election. The amendment provides for an addition to the declaration of rights, "providing that no law shall be enacted in the state respecting the establishment of any method of healing or prohibiting the free exercise of the right of any person to choose any method of healing, or that will compel any healer to be examined by a Board of Examiners which is not entirely composed of members of his or her school of healing."

COLORADO HOSPITAL CASE TO SUPREME COURT

In the case of Newton vs. Weld, county board of commissioners, (Jour. Am. Osteo. Assn., May, 1928, p. 712; June, 1928, p. 810) the District Court on September 10, upheld a demurrer filed by the county commissioners and the case is being taken by the osteopathic profession to the Supreme Court.

On March 1, the county commissioners ruled that osteopathic physicians could not practice in the county hospital, after they had so practiced for twelve years. They brought suit to compel the board to rescind its action.

SCOPE OF OSTEOPATHY IN CONNECTICUT

Hydrotherapy and vibratory massage may be used by licensed osteopathic physicians in Connecticut, according to an opinion given by the Attorney-General to the president of the State Board of Osteopathy on July 24.

The opinion states that the Connecticut statutes do not define osteopathy but enumerate the subjects in which an applicant must be examined, and prohibits his prescribing or using drugs. Since neither hydrotherapy nor vibratory massage involve the use of drugs, and since the Attorney-General was informed that these are taught in recognized osteopathic schools, and that the use thereof has been and is now a part of the recognized treatment of osteopathic physicians, the Attorney-General held them permissible.

HEALTH AND DEATH CERTIFICATES IN GEORGIA

The County Commissioner of Health at Brunswick, Georgia, undertook to convince Dr. Rudd Blauvelt that osteopathic physicians are not empowered to sign health and death certificates although the statutes of the state specifically provide that they are. The question was submitted to the Attorney-General by the Director of Vital Statistics of the State Board of Health and the Attorney-General ruled:

"A doctor of osteopathy is, under the provisions of Section 1741 (h) of the Code of Georgia, expressly authorized to sign both death and health certificates."

OSTEOPATHIC EXPERT WITNESSES IN FLORIDA COURT

Drs. Lamar K. and Frances Tuttle of Miami, Florida, gave depositions at their summer home in Massachusetts in July, in a case where a patient of theirs brought suit against a steamship company for $100,000 damages. Dr. Lamar was cross examined for ten hours and Dr. Frances for four by an attorney who was also an M.D. Four M.D.'s appeared for the defense. The jury disagreed and the case was settled for $10,000 cash.

PUBLIC HOSPITAL IN ILLINOIS ADMITS OSTEOPATHY

It is reported that the members of the City Council at Ottawa, Illinois, on September 24, unanimously recommended the appointment of a competent male manager to take complete charge of the business affairs of the Ryburn-King hospital. It was recommended that this manager appoint, with the approval of the Board of Trustees, a head nurse or superintendent of nurses to have charge of the nurses training school and the operative procedure of the hospital.

This recommendation came as a result of the petition of osteopathic physicians presented a week before in which it was charged that they were discriminated against. The Mayor and two commissioners who had been designated as a committee to investigate the petition, filed a formal report stating that osteopathic physicians have the legal right to be admitted to the hospital in the practice of their profession.

FOR AN OPEN HOSPITAL AT CARTHAGE, MISSOURI

The public at Carthage, Missouri, was asked to vote bonds to provide for a fifty-bed hospital. The city attorney appeared before the council on July 9, stating that osteopathic physicians had requested him to bring to the attention of the council, the matter of the intention of the medical profession to standardize the institution. The chairman of the hospital board stated the next day that the Board had not considered any plan as to standardizing the institution

and that "the question of under what regulations the hospital would be conducted, would be a matter to be taken up when the hospital becomes a reality."

FOR HOSPITAL RIGHTS IN MISSOURI

The osteopathic physicians of Hannibal, Missouri, filed suit on September 10, against the mayor, the city aldermen and members of the Board of Control of Levering Hospital, a city institution, seeking a restraining order against the rules of the hospital which they assert are discriminatory against osteopathy. The petition charges that the board had been unjustly coerced into adopting the rule, by the drug doctors. It is charged that the board has issued instructions denying admission to patients, charity or paid, who desire to be treated by physicians or surgeons who practice osteopathic medicine and surgery.

It is pointed out that the deed to the hospital, which was a gift to the city, provides that "its conduct and management shall forever be free from all political, religious, social or other partisan or sectarian bias or prejudice, preference or influence." Further, "that for many years prior to the recent exclusion from the benefits and privileges as hereinafter set forth, the osteopathic physicians and surgeons and their patients have had the privileges and untrammelled and unfettered right to the use of the facilities of said hospital and to have treatment and treat therein their patients and to use the appliances and conveniences of said hospital and its services in the treatment of the maimed, the injured, the sick and the afflicted."

It is further alleged "that the said unjust and discriminatory rules and regulations enforced by said Board of Control of Levering Hospital discriminate unjustly and oppressively against these plaintiffs and other osteopathic physicians and surgeons in favor of the practitioners of other schools of medicine and deprive these plaintiffs and other osteopathic physicians and surgeons of the right to practice their profession, a valuable property right, and amounts in effect to taking the property of these plaintiffs without due process of the law and contrary to and in violation of the Fourteenth Amendment of the Constitution of the United States and the Fifth Amendment of the Constitution of the Unted States and Section Thirty, Article Two, of the Constitution of the State of Missouri."

OSTEOPATHY NOT RECOGNIZED IN CEYLON

A press dispatch from Colombo, Ceylon, to *The Hindu,* published in Madras, and appearing in that paper on July 20, reports that a woman said to be a practitioner of osteopathy had been found guilty of practicing surgery without being a registered medical practitioner. The story goes on:

"The magistrate, in the course of the judgment, said only qualified registered physicians and surgeons could practice osteopathy in Ceylon. He thought it true to say that the medical profession admitted in theory the great value of osteopathy, but it was probably also true that no member of the medical profession in Ceylon was a qualified osteopath. Accordingly, the practical result of the legal position was that no person suffering from a disease which could only be remedied by the treatment of an osteopath, was able to obtain such treatment. Considering the fact that Mrs. Starr had practised her profession openly without interference and had given relief to patients, where qualified doctors had failed, and that it was possible she was legally entitled to practice her profession in other parts of the world, the magistrate thought in the circumstances, that a nominal punishment was all that was called for, and sentenced her to a fine of Rs. 25."

STATE BOARDS

IOWA

Dr. D. E. Hannan, Perry, has been reappointed for a term of three years on the osteopathic examining board. The officers of the board are: chairman, Rolla Hook, Logan; secretary-treasurer, Sherman Opp, Creston; director of examinations, D. E. Hannan, Perry.

NORTH CAROLINA

Dr. Frank R. Heine, Greensboro, secretary of the state board, is reported as having been reappointed for a five-year term.

WEST VIRGINIA

The next meeting of the board will be held in Huntington, Feb. 11 and 12. Application blanks may be had from the secretary, Dr. G. E. Morris, 542 Empire Bldg., Clarksburg.

Problems of the Profession

POSTGRADUATE WORK

C. C. REID, D.O.
Denver, Colo.

Many problems come before the individual doctor and also before the profession as a whole. Postgraduate colleges, postgraduate teaching and postgraduate work are intertwined in the relations of the individual doctor to himself and to his profession, also, these things involve professional and college problems.

It is agreed by everyone in the profession, I judge, that we should all take postgraduate work regularly to brush up and keep up with the advance in therapeutics. In order to give adequate postgraduate work and meet the needs of the profession along these lines, there should be postgraduate colleges and postgraduate courses given adapted to the practical needs of the doctors in actual practice in the field. There are about eight thousand osteopathic physicians practicing. Everyone of them should have some postgraduate work every year. It goes, then, without saying that we have not one-tenth enough postgraduate colleges to accommodate the profession if desiring to follow up extensive postgraduate work each year for growth and advancement. Of course nothing like this is going to happen now or ever. If, however, we could have a large number of good P. G. courses given every year in various section of the country a much larger number of our doctors would avail themselves of the opportunity and become better in their professional work.

At this writing it is my intention to discuss one phase of postgraduate work. What I say is said with a view to bringing the whole problem before the profession, the colleges and each one individually, to arouse discussion, thought and consideration with a view to the adoption of a proper policy in conducting this work.

SHOULD POSTGRADUATE WORK BE GIVEN FREE OF CHARGE WITHOUT TUITION?

As we look down the future I believe it is important that a correct policy be adopted and a right foundation laid that is just and ethical. Any transaction in life that is not just to both sides is based on a wrong foundation and must eventually yield to the inevitable.

I realize it is within the rights of each individual who has control of postgraduate work to give his efforts and his teaching free of charge, the same as it is within the rights of any surgeon or general practitioner to give his service on any kind of excuse which he might choose as a basis for his decision. He may do this as a permanent thing or he may do this at stated intervals or in specific instances. Personal rights are not going to be discussed, but a broad foundation under the question as to whether postgraduate work should be free or not free is to be covered.

A number of postgraduate courses have been established by individuals in the field and by groups of doctors who have worked out many practical points for the profession and are giving these things in postgraduate courses. Most of them are giving this work for a consideration. Some of our colleges are giving postgraduate work free of charge. In some instances a small charge is made to cover the overhead of the work.

RULE OF COLLEGES IS TO CHARGE FOR POSTGRADUATE COURSES

Most state colleges and universities, and those private or endowed, put on more or less postgraduate work, also extension study clubs and courses. For example the University of Colorado has an extension department in which classes are established under teachers in various parts of the state at different times. The leader is sent out from the university to carry on these various extension courses. These could be all free to the people, but it happens none of them are. Such subjects are science, economics, history and literature are offered. The tuition ranges from $10 to $15 for twelve lessons.

Nearly all medical colleges that give a serious post-

graduate course of any kind charge tuition usually varying from $25 to $100. I have had numbers of postgraduate courses in medical colleges in a variety of studies. I always paid tuition. I have had many private postgraduate courses given by individuals, covering certain fields of therapeutics, usually paying $100 for about a two-weeks' course.

THE OBJECT OF POSTGRADUATE COURSES

The object of postgraduate courses from the standpoint of those giving them may be summarized under a few heads. Some courses are given for one or more than one of these objects.

1—*To make money for those giving the course.* Some of our doctors give private courses and charge $250 for a week or two in some particular line. Evidently these courses are given with the idea of making some definite money out of the teaching process. There is no overhead expense for giving such a postgraduate course that would justify $250 for teaching a class for two weeks. So we must arrive at the conclusion that the doctor is teaching to make money.

Some of our doctors have given courses, and do yet, at times preceding, during or following the A. O. A. convention and charge from $50 to $100 for about a week's work. These courses usually result in money in pocket to the doctor or doctors giving the course.

Under right relations any doctor who has a special message has a right to give it as postgraduate work and make money if he so desires. Doctors who take the work are not deceived and may get more than value received.

2—*To cause those who are giving the course to study more diligently.* Some doctors have a message which is worth while. They ought to study it to the capacity of their ability. By teaching it and giving it to others they are made more diligent in their investigations. By long hours of study and getting their ideas clarified, in telling it to and discussing it with others, they are forced to greater effort. Such a message is worthy and gives value to other doctors. Such an object is commendable. A charge to cover overhead expense even then would be justified.

3—*To give those who teach in the course, experience, prestige and practice.* This object is worthy only to the extent that those who teach have a real message, worth while to those who take the course. Those who give postgraduate work may have a number of objects in view. The aims of getting experience, gaining prestige and increasing practice are not unworthy, provided those who take the work get something worth while.

4—*To give those who teach and manage the course publicity.* It is the desire of many doctors to have publicity, so that their name and work may be known throughout the profession as far as possible. As long as this publicity is ethical and in good taste it is commendable.

Many years ago I took a postgraduate course in ear, nose and throat with one of the greatest specialists in the country. During the two weeks I was with him I remember one statement which he made with great emphasis: "Every great doctor in the United States who is doing a large extensive practice has some definite method of publicity." This was his statement and he embellished it by explanation. He said they were teaching in undergraduate colleges or postgraduate colleges, or were giving private postgraduate work or had some contact with public health or public affairs through organization work, official life, magazines and writings. By observation through many years I find this is true in about every case. Postgraduate work affords a means of publicity which is ethical as long as it is carried on properly. Under right relations this is a worthy end.

5—*To increase the prestige of the undergraduate college.* Undergraduate colleges giving postgraduate work may have a number of points in view in giving such work. One of them is to increase the influence of the college, making it better known and getting favorable recognition from those who take these courses.

6—*To increase the possibility of getting more undergraduate students.* Undergraduate colleges, of course, want students. They cannot run without them. They want the tuition which the students pay and the prestige of the large enrollment and they want to justify the existence of the college.

Postgraduate courses reach many of the alumni and other members of the profession, which make them more favorable to the college if they get what they want in a course.

7—*Surgeons and doctors want more work.* This may be selfish but it is not unworthy. It is in line with a proper ambition. Some doctors may be overworked; this is usually just for a time and they are always looking out for more work that will keep them secure for future practice. Postgraduate courses will be the means of surgeons showing their work to the doctors attending and convincing them that they are wonderful surgeons with fine technic and worthy of trust. This will result, of course, in many of these doctors referring work to them.

Doctors who are not surgeons and are teaching in the course, such as specialists on diagnosis, heart and lung, or gastro-intestinal trouble, will increase their prestige and practice considerably through becoming better known by giving postgraduate tuition.

On these grounds doctors may afford to give free postgraduate courses. It is somewhat in the nature of fee splitting. "You come over here and I will teach you a lot about practice, I will show you what I can do and your surgical work which you are not doing you may refer to me because of the fact that I gave you postgraduate work free." This is in lieu of 25% to 50% of the fee which some surgeons give to general practitioners for recommending surgery to them. The postgraduate route is more ethical and would be recognized as legitimate in most any code of ethics. Fee splitting has its justifications, but in general it is considered unethical.

8—*The movement may be purely selfish, altruistic or a combination of the two.*

The combination of the two is the right one. There must be a selfish side to every move. "Self-preservation is the first law of nature." Every person must look out for self. But when it becomes self without regard to the good of the other fellow it is unethical. There must be a benefit conferred upon the other side in every transaction. On this basis there can be no objection to charging tuition for postgraduate work, provided a proper return in the teaching is made by giving such a course.

9—*The desire to aid the profession from an unselfish standpoint.* This object is very worthy and idealistic. A man who discovers something is supposed to give it to the profession regardless of any benefit to himself. This is certainly very generous. An individual with this idea would not care to charge anything to the patients or to the profession unless he had to solve financial and economic problems. I knew of one doctor who reached this ideal state. He would not charge anything to patients for his work. He found by experience that when he did not ask them to pay anything they usually did not. He left it for them to give him what they wanted to and thereby keep the wolf from the door. But the wolf came in and he was soon cutting lawns for his next meal and of course had to retire from practice because he soon had none. We must be practical at least to the extent of solving our economic problems and meeting the needs of civilization under which we are compelled to exist. It seems we must charge something for our work. The servant is worthy of his hire, even in the religious world.

In order to clarify our minds we must study postgraduate courses from the standpoint of economics.

(To be continued)

PERIODIC HEALTH EXAMINATION*

E. O. MILLAY, D.O.
Montreal, Canada.

The osteopathic physician, by virtue of his superior knowledge of anatomy and physiology, his thorough training in the detection of disturbed function and relation of structure, possesses the essential fundamentals for making efficient health examinations. His principle of forever looking for the cause—his interest in research and development of medical science generally, should make him particularly keen and active in all prophylactic measures, and I believe that as a school we have always been

*Delivered at the joint Ontario and Quebec convention, Ottawa, Sept. 27, 1928.

alive to the great importance of disease prevention. Due to the lack of interest shown by the public in the maintenance of good health, we have been unable to give the proper amount of time and study to this field until comparatively recent years. It is largely through our efforts to lead the public away from old time traditions and customs, and to teach people to think for themselves in health matters, that has brought about a sufficient demand for health examinations which permit of many physicians giving the necessary time and study to these principles in practice.

Our activities in industrial health have taught the employer what physical and mental fitness means to him in dividends, thereby creating a demand for the physician who can improve and maintain the physical fitness of his employees. This in turn has helped to lead the average thinking individual to the deduction that if this principle fits into the best economic plan of corporations and institutions, that it will apply equally well to himself, besides preventing much useless suffering and unhappiness. The result has been the creating of enough public interest in good health to lead a sufficient number to apply for such service, and to be willing to submit to periodic examinations and other necessary measures as well as a willingness to pay an adequate fee to allow the physician to give the required time and study to such measures.

Now that this newer field has developed to such an extent that it is satisfactory from a remunerative standpoint, there is no plausible excuse for lack of interest and activity by members of the profession, no matter where they may be located.

When you have sufficiently interested a member of your clientele, he will readily appreciate the many advantages of being kept in good health and will realize that to do this it will be necessary for you to see him periodically. You should make it clear to him that if you are to undertake this service for him—to assume such a responsibility—he must do his part by appearing regularly for examination and advice or treatment as indicated, then following your instructions to the very best of his ability, —that you are responsible only in so far as he does his part. If he is a business man, he will treat it as a business proposition and will keep such appointments and follow your advice as he does his lawyer's.

In making appointments for periodical examinations you are to be guided by the patient's history and present condition, taking care not to waste his time and money on too frequent and unnecessary appointments, but seeing him often enough to be able to detect and forestall the development of symptoms and debility.

The periodic health examination may be summarized as follows:

1. A complete and permanent record allowing of reference and comparison.
2. Ample time for thorough examination and careful study of the individual case.
3. A thorough review of the findings of the history and physical examination.
4. Explicit advice to each patient with adequate appreciation that organic soundness is often associated with marked functional disturbances.
5. Instruction of patient in the simple rules of health and hygiene.
6. Impressing upon him the importance of keeping appointments for re-examination at such times as you deem necessary, and always reporting to you promptly the onset of unusual symptoms such as loss or gain of weight, cough, pain, undue fatigue, etc.

As to frequency of examination, patients with a bad history and those with a definite tendency or predisposition to disease, should of course be examined at more frequent intervals, also at times when they are under particularly great mental or physical strain.

If you can gain your patient's confidence sufficiently, this procedure will not make him fussy and nervous about his health. He will simply say: "I don't worry over my state of health, I pay my doctor to do that." And he is relieved of the worry that is the cause of much sickness; knowing the exact state of his health actually prevents a lot of unnecessary worry and nervous strain. I have had men come to me in such a nervous state that they were actually sick with various functional disturbances caused by some over-ambitious insurance agent telling him that he passed his medical examination by a very close margin, and that if he ever expects to want further insurance he had better take it now, as this particular agent may be able to get another thousand or so for him without another examination.

If you wish to enter this field of periodical examinations you will do well to begin on your regular clientele by reminding them of the many advantages of good health; that while it is your duty to show him how to prevent a return of the condition you have just corrected for him, your efforts would be more far-reaching if he would report to you for re-examination and advice at such times as you thought necessary.

My plan or system for making these appointments for re-examination is something as follows: The patient is told that he will receive a specimen bottle by mail when it is time for another examination. He is to send in the specimen as directed and after I see the laboratory report he will be called to arrange an appointment. The date for the next examination is always entered in the appointment book at the time of the last visit. Some patients who are in the best of health and are capable of caring for themselves intelligently may be examined at six-month periods, while those with a predisposition to disease, and seem unable to conduct their human machine with proper consideration, are examined every month or six weeks.

You can stimulate a great deal of interest in periodic health examinations in your community by taking advantage of every opportunity to talk to service clubs, business and professional clubs, schools and associations of various kinds on industrial health, and public health, and on the importance of physical fitness as the basis of physiological efficiency, etc.

I know of no better method of promoting a practice in any community than by the stimulation of interest in periodical examinations, and no surer means of establishing good health than by giving time and attention to such talks and addresses. If you give sufficient and serious thought to the preparation and adaption of these addresses, it will bring to you the very best class of patients, and the most satisfactory type of practice.

Diagnosis and Treatment

THE KNEE*

J. J. O'CONNOR, D.O.
Toronto, Ont., Canada

I have been asked to present a paper on the knee and the care of some of its afflictions. In the past I have attended a number of national and state conventions and have listened to several very capable brother osteopaths present papers on the knee and summing them all up one would almost conclude that about the only knee injuries presented to them were displacements of the cartilages of the knee. Displacement of the internal cartilage is fairly common but I have found in my practice, which has included considerable work with various forms of athletic clubs comprising football, soccer, lacrosse, baseball and hockey players, that there is a greater percentage of injuries to the ligaments of the knee than to the cartilages.

The knee joint is one of the strongest joints in the skeleton. This is shown by the fact that though exposed to great strain, it is seldom dislocated. It owes this stability not so much to the shape of the bones that enter into its formation but more to the strength and arrangements of its ligaments.

Motion at the knee-joint is a composite movement of rotation of the condyles and gliding in the anteroposterior direction. Flexion and extension take place between the condyles and the semilunar cartilages, while rotation has its seat between the cartilages and the upper surfaces of the tibia. Complete extension is accompanied by an outward rotation of the tibia, a screwing home, as it were, of the joint, by which all ligaments are tightened and the maximum of stability obtained. Complete extension in

*Delivered before the joint Ontario and Quebec convention, Ottawa, Sept. 27, 1928.

most individuals is equivalent to slight hyperextension. In semiflexion the joint is in its most unstable position and least protected from injury.

The osteopathic physician, with his knowledge of the ligaments, not only of the knee-joint but of all the joints of the body, and with his understanding as to just exactly what motion of the joint places a strain on each ligament, can by the correct application of an adhesive dressing either aid the ligament in its function or relieve it absolutely of all strain.

The lateral ligaments of the knee are two. The internal one is short and thick and can be separated from the capsule only by dissection. It is also intimately associated with the internal meniscus. The external ligament is larger and runs from the lateral surface of the external condyle to the head of the fibula. It is entirely separated from the capsule.

On the posterior surface of the knee we have the tendon of the semimembranosus, which is inserted in a groove on the inner side of the tibia and sends off fibers which run obliquely upward across the capsule, forming the ligament of Winslow. The popliteus muscle arising from the outer condyle of the femur runs obliquely downward and inward across the capsule to its insertion in the upper end of the tibia. The two heads of the gastrocnemius muscle which takes origin from the posterior surface of the femur, above the condyles, also blend with the capsule.

Anteriorly we have the quadriceps tendon the insertion of which is much more extensive than usually supposed, broad, fibrous expansion descending on either side of the patella and patella tendon from the vastus lateralis and vastus medialis muscles and blending with the facia of the leg, and also the patella tendon.

The crucial ligaments are the strongest in the knee. The anterior crucial ligament arises from the tibia just in front of the spine and runs upward, backward and outward to the posterior portion of the inner side of the lateral condyle. The posterior crucial ligament arises from the depression in the superior surface of the tibia behind the spine and runs upward, forward and inward to be attached to the front of the outer side of the condyle.

With this brief outline of the ligaments of the knee it can readily be seen that injuries to the boundary ligaments can be easily diagnosed by palpation and whether the knee can be straightened or flexed without pain, however, with the crucial ligaments there may be some difficulty as they cannot be palpated and we then have to remember our anatomy. The anterior crucial ligament is tight in extension while the posterior crucial ligament is tight in flexion and internal rotation. Abnormal mobility in the anteroposterior direction when the knee is extended is the sign of damage to the anterior crucial ligament, while increase in anterior posterior mobility when the knee is flexed is the sign of injury to the posterior crucial ligament. Damage to either one causes instability and weakness of the knee.

TREATMENT

Having concluded our diagnosis the treatment is comparatively simple. Of course we all realize that in the case of torn ligaments rest is most essential so we endeavor to apply an adhesive dressing in such a manner as to restrict the motion of the joint that would stretch the injured ligaments. If it is a posterior ligament then we must prevent complete extension, or in the case of an anterior ligament we must prevent flexion. If it is a crucial ligament our fixation must be just the opposite i. e., in anterior crucial ligament involvement extension must be avoided and flexion must be avoided in the case of the posterior crucial ligament.

In many of these cases, and particularly with crucial ligament involvement, it may be necessary to keep the joint taped for two and a half or three weeks; and in order to prevent irritation to the skin I find that proper preparation of the skin is most essential. This consists of shaving, thorough washing and liberal application of alcohol which is thoroughly dried before applying the tape.

TO PREVENT EXTENSION

Slightly flex the knee, use tape about an inch or an inch and a quarter in width, fix end about six inches below patella and on the tibia, bring tape upward and backward so that it passes across the popliteal space, then bring upward and forward to the anterior aspect of thigh and fix. Second strip is started at same point but brought upward and backward in the opposite direction so that it crosses the first tape at the popliteal space and then continued to meet the end of the first tape. The remaining strips are brought up in like manner making a basket weave over the popliteal space. Three strips on each side are sufficient. These are then prevented from slipping by passing a strip around the calf of the leg and another around the thigh so as to hold the first strips.

TO PREVENT FLEXION

Straighten the leg: fix end about six inches below popliteal space and bring upward and forward so as to cross the patella and continue up and back of the thigh. Second strip comes up on the other side of the leg and crosses patella at same point and continues upward and backward till it meets the first tape, other strips are applied likewise to make a basket weave over patella and are then fixed so they will not slip.

Occasionally it will be found necessary to apply both these dressings at the same time and often it is much better to do this than to apply a plaster cast, for it will prevent the possibility of a stiff knee as it affords some movement at all times and yet provides the protection necessary.

Current Medical Literature

EARL R. HOSKINS, Director
17 N. State St., Chicago

TIME FOR STUDY

Doctors do not read as much as they should. It is hard to find time for study when we have as arduous lives to live as is our lot. Yet we owe both to ourselves and to those to whom we minister the right to accumulate all that is worth while which other minds have evolved. Dr. Hulburt of the A. O. A. Central office has emphasized the osteopathic meat in current and past medical literature and has proved its value.

This department has for its aims and purposes ease of contact with various periodicals for the busy doctor, thereby serving as a guidepost to where the indicated material can be found and thoroughly digested if desired. The subject matter will be partially of a nature to accompany symposia in the JOURNAL. We are anxious to receive abstracts of articles from all publications which directly or indirectly apply to osteopathy.

The American Journal of Physiology, Baltimore

September 1, 1928

EXTRACTED BY R. N. MACBAIN
25 E. Washington St., Chicago

The Effect of Variation in Posture on the Output of the Human Heart. Arthur Grollman.
The Elasticity and Ductility of Skeletal Muscle. S. W. Ranson.
The Elasticity and Ductility of Muscle in the Myostatic Contracture Caused by Tetanus Toxin. S. W. Ranson and H. H. Dixon.
The Prepotency of Medulli-Adrenal Influence in Emotional Hyperglycemia. S. W. Britton.
Acid-Base Equilibrium After Bilateral Nephrectomy. W. W. Swingle.

The Effect of Variation in Posture on the Output of the Human Heart.—Several investigators have reported that the cardiac output (amount of blood expressed from the ventricle in a given period of time) was greatest in the recumbent position, less in the sitting position, and least in the standing. The experimental work reported here was undertaken to check these findings.

The circulatory minute volume is calculated from either the consumption of oxygen in the lungs in a given period of time, or from the absorption of a foreign gas—nitrous oxide. Accurate results depend on a thorough mixing of the measuring gas with the reserve and residual air in the lungs. It was demonstrated that the vital capacity, chiefly the supplemental air, was less in the recumbent than in the sitting or erect positions. As a result, mixing of the measuring gas took longer in the recumbent position. When this error had been rectified, it was found that the circulatory minute volume was the same in the three positions. The total amount of blood pumped by the heart in any position for a given period of time is the same. It can be seen, however, that the amount

pumped at each stroke will vary according to the variation of the pulse rate between the recumbent and the erect positions. The author also points out the ability of the heart to compensate for the shifting of the column of blood from the erect to the horizontal position, and to maintain the constancy of the output of the heart.

SUMMARY

"The circulatory minute volumes of a series of normal men and women were determined in the recumbent, sitting and erect postures. Contrary to the findings of previous investigators, the results show that the circulatory minute volume is maintained constant despite variations in posture. The effect of posture on the respiratory mechanism is pointed out, and it is shown that homogeneous mixture in a lung-bag system is less easily obtained in the recumbent than in the standing posture. Certain physiological implications involved in the conception of a constancy in the circulatory minute volume with varying posture are discussed." (Grollman.)

The Elasticity and Ductility of Skeletal Muscle.—Tracings of primary and secondary elastic phenomena of atonic living skeletal muscle. The plastic change or permanent lengthening of the muscle as a result of stretching was also studied. For this property of muscle which results in a permanent elongation when stretched, the author prefers the term ductility to plasticity.

Both phenomena are due to changes in the physical state of muscle substance. The chemical basis for these physical changes is at present undetermined. Muscle may be pictured "as an elastic network containing a viscus fluid—and change of shape of the muscle would require the viscus fluid to pass more or less rapidly into a new configuration relative to the solid structures of the tissue." (Gasson and Hill.)

SUMMARY

"The primary and secondary elastic phenomena of muscle were studied in the living gastrocnemius of the white rat with intact circulation after section of the sciatic nerve, and in the gastrocnemius muscle of the white rat in rigor mortis. In the living atonic muscle the secondary elastic phenomena (after-lengthening and after-shortening) are not conspicuous and there is very little permanent deformation. In rigor mortis there is at first a marked increase in the after-lengthening, after-shortening and permanent deformation associated with a slight decrease in the primary elastic stretch. Later as the muscle becomes more firmly set in rigor the primary and secondary elastic stretch are both greatly reduced and the permanent deformation becomes even less than in normal muscle.

"In proportion as a muscle suffers permanent deformation or elongation when stretched it is plastic in the sense of Langelaan. But it is better to speak of this property as ductility rather than plasticity. Early in rigor mortis the ductility is increased, later it is decreased to less than that of living atonic muscle. But it increases again as the rigor begins to pass off.

"A muscle in potassium contracture is very ductile and shows marked after-lengthening and after-shortening.

"Ductility and the secondary elastic phenomena are probably dependent on the viscosity of the muscle which seems to be increased to varying extents in rigor mortis and potassium contracture." (Ranson.)

The Elasticity and Ductility of Muscle in the Myostatic Contracture Caused by Tetanus Toxin.

SUMMARY

"Myostatic contracture is a condition of permanent shortening in resting muscle which persists after section of the motor nerve. It develops whenever a muscle is immobilized by section of its tendon, by paralysis of its antagonists or by fixation of the limb in a plaster cast. It also develops in the late stages of experimental local tetanus.

"A study of gastrocnemius muscle of the white rat in myostatic contracture due to tetanus toxin showed not only a permanent shortening of the resting muscle but also an even greater relative shortening of the individual muscle fibers. The elastic stretch of a muscle in tetanus contracture is less for a given load than would be the stretch of a normal muscle under the same conditions. In the early stages of tetanus contracture, the after-lengthening, after-shortening and ductility are markedly increased; but they decrease again toward normal as the muscle becomes more rigidly set in contracture.

"The extensibility of a living muscle in myostatic contracture caused by tetanus toxin resembles that of a muscle in rigor mortis. In both the changes in elasticity and ductility are probably related to similar changes of the physical state of the muscle fibers." (Ranson and Dixon.)

The Prepotency of Medulli-Adrenal Influence in Emotional Hyperglycemia.

SUMMARY

"Normal cats which have been excited (while caged, and displaying only minor muscular activity) by an aggressive dog show marked increments in blood-sugar level. Following two minutes' excitement the glycemic percentage is commonly augmented to 30 to 90 per cent; greater increases (up to over 100 per cent) are observed after four minutes' excitation. The hyperglycemic as well as the general reactions become less marked with succeeding emotive responses. Evidences of parallelism in visceral and somatic responses are apparent.

"Hyperglycemia attending emotional reactions in animals with splanchnic branches to the liver severed and normal medulli-adrenal function maintained is only slightly modified from the normal.

"Profound disability of the glycogenolytic mechanism is observed in animals which have been deprived of the adrenal medulla; emotional excitation for two or four minutes in such cases usually results in significant depressions in blood sugar which may persist for twenty minutes or longer. The general affective response is not appreciably altered.

"The hepatic glycogen in medulliadrenalectomized animals was within the normal limits. The observed emotional hypoglycemia, therefore, was probably referable to failure to mobilize glycogen, in the absence of adrenin secretion, adequately to supply the demands of even minor muscular activity.

"The importance of medulliadrenal intervention in calling forth readily available fuel for muscular activities during conditions of urgency is pointed out." (S. W. Britton.

Acid-Base Equilibrium After Bilateral Nephrectomy

SUMMARY

"1. Bilaterally nephrectomized dogs do not develop acid intoxication. In some cases a slight fall in alkali reserve may occur but the change is in striking contrast to the acidosis which follows adrenal removal.

"2. Blood sugar increases slightly after total kidney removal, but falls markedly after adrenal extirpation.

"3. High figures for inorganic phosphate, sulphate and urea are found after nephrectomy and adrenalectomy.

"4. Blood chlorides fall as sulphate and phosphate rise following nephrectomy.

"5. The suggestion is made that the acid intoxication of adrenal insufficiency and probably also of uremia is extra renal in origin since it is not present in nephrectomized dogs with total suppression of kidney function." (W. W. Swingle.)

American Journal of Obstetrics and Gynecology, St. Louis

XVI: 157-306 (August) 1928

EXTRACTED BY ALBERT C. JOHNSON

1001 Huron Road, Cleveland, O.

An Outbreak of Puerperal Sepsis in N. Y. City. B. P. Watson, M.D., New York, p. 157.

Some Observations Based on Routine Investigation of the Kidneys in the Toxemias of Pregnancy. By Isidor W. Kahn, M.D., New York, p. 201.

Laparotrachelotomy: An Analytic Report of Forty Consecutive Operations Without a Death. By Irving F. Stein, M.D. and M. L. Leventhal, M.D., Chicago, p. 229.

Some Points in Veterinary Practice of Interest to the Gynecologist. By G. L. Moench, M.D., New York, p. 254.

A Case of Ovarian Pregnancy of Five Months' Development. By G. Van Amber Brown, M.D., Detroit, p. 274.

Outbreak of Puerperal Sepsis in Women's Hospital.—Twenty-four women out of one hundred sixty-three delivered developed streptococcal infection. There were eight deaths. Two nurses developed streptococcal infection, one

in an arm and the other in the peritoneum. Both recovered.

The operating and delivery rooms of the hospital were carefully sterilized, but new infections continued to develop.

The ultimate conclusion was that the extremely virulent infection was disseminated by the agency of nasal and buccal secretions of the doctors and nurses. Positive cultures of streptococci were grown from the nose and throat of each of several attendants.

The infected patients undoubtedly received the infection by way of the vaginal tract.

Some Observations Based on Routine Investigation of the Kidneys in the Toxemias of Pregnancy.—The role of the urinary organs in a toxemia of pregnancy is always of the utmost importance. The toxin originates in the kidney primarily and is distributed by the blood stream. All patients in the series manifested an increase in blood pressure ranging from 30 to 100 mm. of mercury. Passage of ureteral catheters into both ureters is important to exclude obstruction within the ureters by stone, stricture or extrinsic pressure. A urinary antiseptic, such as Caprokol or Formohydrion was given by mouth. In every case a careful search was made for foci of infection. Lavage of the renal pelvis was done. In eight cases indwelling catheters were left in the ureters for several days until satisfactory drainage was established. Often within forty-eight hours after inserting the indwelling catheter the general symptoms improved. The kidney of pregnancy is usually one that has been previously affected.

Laparotrachelotomy.—The author gives his technic of low cesarean section, using local anesthesia, the technic having proved successful in forty cases. No deaths occurred. This type of operation permits of far broader indications than does the classic cesarean; previous bag induction and antepartum and intrapartum infection not being contraindications. An adequate test of labor is of more value as an indication than are pelvic measurements.

Points of Interest in Veterinary Practice.—G. L. Moench, M.D., was impressed with the excellence of the records and case histories kept by a veterinary society. In breeding animals it has been shown that prematurely born calves are seldom good breeders later on, often being sterile. The author wonders if this is not true of the human. The animal breeder also regards over-carried offspring with no more favor than he does the premature animals.

Ovarian Pregnancy of Five Months' Development.—A primary ovarian pregnancy is the result of fecundation of the ovum while still within the graffian follicle. Examples of such a condition are uncommon. The author describes a case in a 32-year-old primipara who had been married 17 years without having become pregnant. The tumor mass was removed surgically.

Archives of Pathology, Chicago

Vol. 6, No. 2: 1928

Extracted by P. V. ALLEN

Kahn Bldg., Indianapolis, Ind.

The Present State of Knowledge Regarding Epidemic Encephalitis. Hans Zinsser, p. 271—The author discusses and evaluates the more recent data in regard to the characteristics of the disease from the standpoint of etiology. The symptoms of the disease are headache, chills, nausea and fever, and those of meningeal irritation. These symptoms are not often observed in the interval between epidemics for the reason that the cases usually come to the physician in the chronic stage.

There is a necessity for distinguishing between epidemic encephalitis and those forms of encephalitis which are sequelae to many toxic injuries and infections. Encephalitis may therefore be either an infectious process or one due to injury to the brain by poison produced elsewhere in the body. The chief pathological manifestation and perhaps the primary lesion is minute hemorrhage, with little apparent preceding inflammation and chiefly in the pons, medulla and optic thalmus.

The similarity between postvaccinal encephalitis, lead poisoning, rabies, poliomyelitis and typhus as to pathology, suggest the probability that a filtrable virus is the agent responsible. The frequent supervention of encephalitis in cases of influenza, vaccination, measles, varicella, smallpox, and other infections indicates the probability that it is a distinct pathological entity. These predisposing causes simply prepare the soil in a susceptible person for the invasion of a specific virus; and all of them either belong, or are suspected of belonging to the filtrable virus group. With respect to vaccination, the author concludes that it is at least a contributory cause, but that the immediate cause is some distinct agent. Studies of herpes virus, which in the presence of some provocative toxic condition produces characteristic vesicular lesions and which may develop neurotropism and produce encephalitis in animals, has lent credence to the above theories of the etiology of encephalitis.

The author concludes with a discussion of the general nature of filtrable viruses, knowledge of which has come about, chiefly through study of the bacteriophage. d'Herelle believes the bacteriophage to be an ultra-microscopic virus, a living agent; while others hold the theory that its lytic action is "analogous to that of autolysis, the process being initiated by the bacteriophage filtrate more or less in the manner in which a catalytic agent initiates many reactions." The problem of transmission is thus complicated: are encephalitis and similar diseases, as herpes and the common cold, due to infectious agents transmissible from one host to another; or are they due to subjection of the hosts to similar external conditions?

The Distribution and Amount of Calcium and Potassium in Normal Tissues of the Mouse. Rohdenburg and Geiger, p. 215.

A complete survey was made of the calcium content of normal tissues of the mouse, which brought out the following suggestive facts the significance of which can only be apparent upon further work:

1. Potassium is uniformly distributed throughout the cells of the body, in larger quantities in cells undergoing mitosis, i. e., in physiologically active tissue.

2. Calcium is apparently present in larger quantities in cells which are senescent, and also in tissues which are undergoing repair.

The present study furnishes suggestive material for speculation as to:

1. The significance of much calcium and little potassium in the spermatozoa and the reverse in the ovum.

2. The segregation of potassium and calcium in the peripheral zone of the suprarenal gland, and the dense potassium deposit in the thymus.

3. Significance of peculiar calcium and potassium concentrations in the central nervous system.

HEART DISEASE LEADS

"Diseases of the Heart" was given as the principal cause of death in the registration area of the United States in 1925, according to an announcement just issued by the Bureau of Census through the Department of Commerce. Nephritis was second, in 1925, displacing pneumonia, which held that place in 1924. Pneumonia took third place, with cancer, tuberculosis (all forms being totaled) and cerebral hemfied.

HEART DISEASES

Dr. Franklin H. Martin of Chicago, Director-General of the American College of Surgeons, said one in eight people died of heart disease, one in seven of cancer, and one in six of apoplexy.

"Every one of these," he declared, "is preventable, and a curable disease, if reached early enough. If we had someone who would say we must have annual examinations, fifty per cent of those diseases would be caught in their incipient stages.

LEAD POISONING IN THE COUNTRY

Gendron (Bull. de la Soc. Med. des Hop.) observed three cases of lead poisoning in persons living in the country. On investigation, it was established that they used water from a well in which was a lead pipe, connected with the pump. Analysis of the water revealed appreciable traces of the metal. The patients improved as soon as they started using water from a different well, where there was only a chain and bucket. The presence of nitrates and chlorides in the water favored absorption of lead. The presence of the salts may be explained by the proximity of the well to a dung hill, as is seen on some farms.—J. A. M. A.

American College of Osteopathic Surgeons

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ANNUAL CLINICAL MEETING

The annual clinical meeting of the American College of Osteopathic Surgeons was held at the Southwestern Osteopathic Sanitarium and Hospital, Wichita, Kansas, on October 4, 5 and 6. The meeting was an unprecedented success in the history of osteopathic associations. Visiting surgeons were registered with home addresses from Massachusetts to California.

OFFICERS OF THE AMERICAN COLLEGE OF OSTEOPATHIC SURGEONS
(Photo taken at Wichita meeting October, 1928)

First row (left to right)—Dr. G. M. Laughlin, Kirksville, trustee; Dr. Harry Collins, Chicago, president; Dr. H. C. Wallace, Wichita, trustee. Rear row (left to right)—Dr. W. C. Brigham, Los Angeles, vice president and trustee; Dr. O. F. Martin, Boston, secretary and treasurer.

There was more surgical clinical material available than could be utilized. Among the visiting surgeons who gave operative demonstrations were Dr. W. C. Brigham, Los Angeles; Dr. George J. Conley, Kansas City; Dr. H. L. Collins, Chicago; Dr. H. E. Lamb, Denver; Dr. George M. Laughlin, Kirksville; Dr. Orel F. Martin, Boston; Dr. S. D. Zaph, Chicago, and others. The surgical clinics, which commenced early in the morning and lasted until late afternoon, were followed by open discussions of the operative cases.

On Thursday evening, there was an elaborate Southern style dinner served at the Green Parrot Inn.

At the meeting of the board of trustees on Friday it was voted to offer a prize of $150.00 for the best original thesis, the subject to be decided by the educational committee, which is now arranging the details of the contest. Full information will be published in the next issue of THE JOURNAL.

The last three days of the first full calendar week in October was selected as the time for future yearly clinical and business meetings. Lakeside Hospital, Kansas City, Missouri, was chosen for the place of the next meeting, the dates being October 12, 13, 14, 1929. Dr. George J. Conley was elected program chairman for the 1929 meeting.

The Wichita papers gave extensive publicity to the meeting. Great credit is due to Dr. H. C. Wallace for his work as chairman of the program section, in providing such an unusually interesting amount of clinical material, while the royal hospitality of Dr. Wallace and all his associates—doctors, nurses, chauffeurs, etc., earned the gratitude of all the visitors. Those who attended the meeting will always remember this gathering as being one of the brightest of their many convention trips, in which every minute was filled with something of intense interest, both profitable and pleasurable.

CONSERVATION IN GALL-BLADDER SURGERY*

ALBERT COLLOM JOHNSON, D.O.

The surgical profession, as a whole, is yet somewhat "up in the air" when it comes to standardizing operative procedures in connection with gall-gladder surgery.

Away back in the fourteenth century a man by the name of Foligno first described the presence of gall-stones within the gall-bladder of a human being. It was not until five centuries later that surgery began to successfully cope with this most common affliction. And even at the present date there is much room for improvement in the mortality and morbidity statistics of gall-bladder surgery.

There does not seem to be a unanimity of opinion regarding the proper procedure to be undertaken in the various gall-bladder operations.

Shall we drain or shall we excise?

Kocher, who is known for his radical ideas, has been of the opinion that the gall-bladder had better be drained. Moynihan is a staunch believer in the more radical cholecystectomy.

I certainly cannot flatter myself into believing that I have an answer to the problem. My experiences in the field of gall-bladder surgery are so insignificant in comparison with those of these masters that I am tempted to maintain only a deep silence.

However, circumstances being such as they are, perhaps I can occupy a position upon the sidelines, as it were, thereby gaining a certain perspective not enjoyed by those more intimately involved in the surgical fracas.

I am of the opinion that many gall-bladders are removed when drainage would be better—for the patient.

I am of the opinion that many surgeons who remove gall-bladders had better be driving taxicabs.

I am of the opinion that many surgeons who remove gall-bladders, remove only the ones that are easily removable and drain the rest, thereby "passing the buck" to Mother Nature.

I am of the opinion that the pendulum will swing back to a more conservative surgery just as soon as surgeons begin to pause in their work and ask "why"?

In order to visualize the mechanical principles and the involved extraneous factors influencing biliary flow, one must concentrate and ponder for a considerable length of time.

Bile doesn't just flow down a pipe. It flows and ebbs; it is acted upon by the spasticity of its channels; it is shunted off into the gall-bladder diverticulum; it is held back or allowed to proceed by the sphincter of Oddi; it is obliged, generally, to mingle with the juices of the pancreas; it is deprived of a great proportion of its fluid content by the gall-bladder, and it re-obtains this fluid content through the generosity of the common and hepatic ducts.

Has the gall-bladder a function?

If it has no function, why do the bile channels enlarge manyfold at once following removal of it?

It is even said that a new gall-bladder is sometimes formed to take the place of the one removed. Certainly Nature would not go to all this trouble if a reservoir were unnecessary. And to contradict the statement that the enlargement of the common duct is due merely to a back pressure of bile, we have only to state the fact that the sphincter of Oddi is more relaxed after the gall bladder has been removed.

It is not my purpose to discuss the various diseases of the biliary system, nor the diagnostic problems involved in the pre-operative study of the patient.

I wish merely to bring to your attention a few problems that must be solved—after the abdomen is open. Shall we drain that gall-bladder or shall we cut it out? If we drain it how shall we proceed? If we remove it, what will become of our patient?

Most any surgeon can successfully drain a gall-bladder if he succeeds in finding it. Strange as it may seem, I once heard of a patient who was given a glass of milk on the second postoperative day, which telltale substance came pouring from the gall-bladder (?) drainage tube as soon as it had been swallowed. That surgeon was of the taxicab variety who failed to locate the gall-bladder. And he wasn't of the osteopathic school either.

When I say that most any surgeon can drain a gall-bladder I mean that most any surgeon can insert a drainage tube. Whether he cures his patient's complaint is another matter.

If a stone is allowed to remain in the cystic duct, the surgeon may find that his drainage is of the permanent sort and an aggravation to the patient. If a stone is allowed to remain in the common duct, the above remarks still hold good—with variations.

*Prepared for the meeting of the American College of Surgeons at the Thirty-second Annual Convention, Kirksville, August, 1928.

Taking another view of the subject, our surgeon perhaps recognizes this gall-bladder as one of the easy ones, and decides to perform the more laudable cholecystectomy. He may overlook the presence of a small stone in the ampulla with the consequent backing up of infected bile into the pancreatic duct. He removes the bladder—his best avenue for drainage of the biliary system—and then wonders why his patient does not recover in due time. Then again there may be an organic obstruction of such a nature somewhere in the common duct, the only relief of which would be the surgical establishment of an opening between the gall-bladder and some portion of the digestive canal. With the gall-bladder removed, what chance has the patient to ever free himself of his cholemia? Some of you may suggest a choledocho-enterostomy,—but who is the man who cares to undertake such an operation in a jaundiced patient, his sub-hepatic region smothered in adhesions?

It is true that all of us plunge into the easy cholecystectomies with glee. But when we are obliged to dig a big septic gall-bladder out from a mat of adhesions, our glee disappears, and we opine that drainage is the operation of choice. That is "passing the buck," and it is selfish and dishonest. It probably is best for our patient to drain this septic mess, but if such is the case, we should also remember that those *easy* cholecystectomies might well have been cholecystostomies.

In cases in which a stasis of bile exists, an accompanying pancreatic congestion or inflammation is likely to be present. Removing the gall-bladder in these cases is not good for the patient unless drainage of the common duct is provided otherwise. We sometimes neglect this procedure due to the technical difficulties or due to the need for a hurried completion of the operation.

If there are stones in the hepatic duct or higher up in the right or left biliary channels, I am of the opinion that the patient's best interests require a cholecystostomy rather than a cholecystectomy. These stones that lie beyond reach are prone to come down later, and the removal of the gall-bladder adds to the technical difficulties if operation is required at a later date.

Patients who are deeply jaundiced, and exhausted as a result of it, do not stand operation well. The dangers of postoperative bleeding must not be overlooked, and the liability to shock from extensive surgical procedures should cause us to carefully weigh all the evidence for and against either of the two operations. It's much better to have a patient survive with a drainage gall-bladder than to have him buried with one neatly removed.

When all these things are taken into consideration we are forced to look askance at the surgeon who says he always removes the gall-bladder. If he does as he claims, he either is not using his God-given common sense, or he is smooth enough to choose only the easy cases. Patients who are not badly in need of an operation can be expected to survive after cholecystectomy, and this may be the best reason why some surgeons boast of a low mortality rate.

A few words regarding the present-day method of draining the gall-bladder might not be out of place.

Many of us get into the habit of doing things just because others do it. We follow the line of least resistance, oftentimes in our subconsciousness questioning the value of a certain method, but otherwise failing to take any steps to improve upon it.

I have long questioned the method of draining the gall-bladder whereby a *small* rubber tube is inserted into a large, flabby, infected gall-bladder. The large flabby gall-bladder must necessarily collapse about the small tube, but in doing so it is thrown into folds and pocketed areas which accumulate pus and infected bile just as would a sponge. To be sure, time might be expected to smooth out the wrinkles, providing the fistula remains open for a sufficiently long time. Otherwise the patient's cholecystostomy was nothing more than so much expense to him.

It is not possible that this may be the reason for the stand against cholecystostomy. If the gall-bladder were drained thoroughly and effectively, would not these patients be cured of their malady, provided the more or less remote causative foci of infection have already been eradicated?

I cannot offer any improvement in technic. If I were to do so, I would be unable to fortify my statements with statistics of a sufficient number of cured patients.

Dr. Kennedy, of the Joseph Price Hospital in Philadelphia, balloons the gall-bladder with strips of gauze, and he claims his patients recover and do not have recurrences.

I am not prepared to say that a packing of gauze is the ideal drainage. It may be better than a rubber tube; it may not be so effective. There may be other methods to be worked out.

The purpose of this paper is to stimulate thought. If this thought is stimulated in the minds of the surgeons of our school, and a better method results from that stimulation, the writer will be more than repaid.

I cannot resist the temptation to add a few remarks concerning the occasional case of fatal pulmonary embolism following gall-bladder surgery.

Emboli from thrombotic sources probably occur only in the presence of infection. This is true of emboli originating from the postpartum uterus as well as those which strike down our gall-bladder or appendix patients.

I think that all surgeons, at least those who have lost patients as the result of embolism, have an inherent dread of that calamity. Personally, my one greatest fear in the care of my infected abdominal cases is embolism. If a patient of mine continues to have a rise in temperature when this should be normal, the thought of an embolismic demise overshadows all other apprehensions. One must undergo the experience in order to appreciate the mental forebodings which are prone to develop.

No one can deny that the incidence of embolism is higher following cholecystectomy than following cholecystostomy. This is only natural on account of the added trauma accompanying the former operation, in addition to the temporary disturbance in circulation of blood and bile at the operative vicinity.

Then it is possible for parenchymatous liver cells to enter the blood stream as a result of trauma, and these as well as other tiny embolic particles become lodged in the smaller pulmonary vessels, giving rise to what is frequently diagnosed as postoperative pneumonia. Postoperative pneumonia kills its host of gall-bladder patients annually.

All this is merely another reason for an honest conservatism in gall-bladder surgery. Consider your patient as a living human being who wishes to live. Put aside your own selfish interests and prejudices and give your patient the careful consideration he deserves.

Roscoe Osteopathic Clinic,
Cleveland, Ohio.

THE USE OF NAILS IN THE TREATMENT OF A FRACTURE

ALBERT COLLOM JOHNSON, D.O.

C. Mc., a seven-year-old boy, came to the Clinic September 8 for consultation concerning a fracture of the lower end of the left humerus, which he had sustained in falling from a load of hay. As is common in boys of this age, he fell upon an elbow, producing the fracture shown in Fig. 1, and which is the characteristic type found in this location.

The boy was taken to a physician, who "set" the fracture with the result poorly shown in Fig. 2. This apposition of fragments was pronounced "perfect" by the roentgenologist who made the picture.

It didn't look perfect to the boy's parents, and so the patient was brought to us.

Under general anesthesia, Dr. Doron and the writer attempted to better the condition under fluoroscopic control. We succeeded in getting considerable improvement, but the improvement was only temporary.

Following the application of padded splints, another x-ray film showed an unsatisfactory result. We were unable to prevent a rotation between the fragments. Slight pressure of a finger upon the external condyle would correct the rotation, but by the time the splints or the cast was applied, the unsatisfactory apposition had recurred.

Under local anesthesia, using 1% novocain, a 3½ inch incision was made extending from the external condyle, up and parallel with the shaft of the humerus. By blunt dissection the area of the fracture was entered.

By the aid of two wound hooks, the fragments were coaxed into good apposition, this being verified by the forefinger which was placed transversely across the flat anterior surface of the bone at the line of fracture.

In this way the correct amount of flexion of the joint was determined. Too great flexion was as harmful as too little.

With the two fragments thus under perfect control, a small wire nail was driven through the lower fragment into the upper. This supported the fragments materially, but in order to make doubly sure, a second nail was driven in a half-inch from the first.

The tissues were closed in layers without drainage, and the arm put up in plaster in moderate flexion.

The x-ray picture taken immediately (Fig. 3) gives the impression that one of the nails is not giving support.

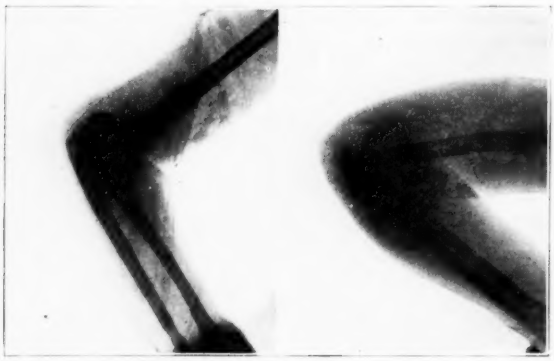

Fig. 1

Fig. 2

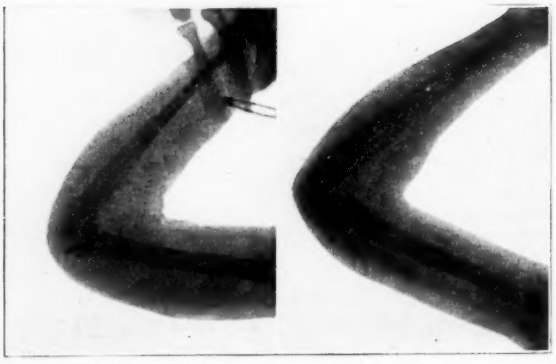

Fig. 3

Fig. 4

We are of the opinion, however, that such a conclusion is erroneous. This film shows the fragments in excellent position.

Twenty-one days later the nails were removed through a half-inch incision under novocain. The elbow was brought to a right angle and a silicate dressing applied.

Fig. 4 shows the result after 21 days, and after one of the nails had been removed. The other nail was removed immediately after the picture was taken.

We expect a perfect functional result in this case.

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American Society of Osteopathic Internists

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THE DIAGNOSIS OF A "BACKACHE"?

EMILY A. BABB, D.O.

The patient, a woman of 35 years, mother of two children, 4 and 5 years of age, called me on the afternoon of November 2, 1927, for "a terrible backache low down," which she said she "couldn't stand any longer," but she "did not see why she had it," and gave me no further clue. I responded, carrying instruments, gloves and sterilizer to be prepared for some causative factor for her pain, remembering the uterine condition from which she suffered in the early spring.

Personal Appearance:—A well-nourished woman showing evidence of pain which was located in the lumbar and sacral areas extending down to the knees. Her face was flushed and anxious; she also complained of headache.

Inspection:—Upon inspection I found tenderness all along the spine from occiput to coccyx centering generally over the lumbar area. I told her I suspected a uterine involvement and inquired if she were menstruating and if she had experienced any menstrual pains recently. She gave the following history.

History:—On August 22 the patient fell but did not call a physician. Her period had been due August 19 or 20, but had not started. The fall caused a sudden gush of blood, followed by a second expulsion of blood two hours later. This was followed by dark streaks on the napkins every few days lasting for about two or three days at a time for the next month. The ordinary flow was established on September 19 lasting five days and followed by irregular showings until October 22, when she had a flowing for five and a half days. On November 22 a sudden passage of blood was accompanied by "something which looked like a little piece of flesh"; then followed the pain for which she called me.

Previous History:—Appendectomy several years previous; a miscarriage five years back followed by curettage and ventral fixation of the uterus with partial removal of the ovaries for a cystic condition. Her surgeon at that time told her she would probably have no further pregnancies; however, she bore a child the following year. In 1923 I attended her for an infected throat following her husband's quinsy and the first child's otitis media. In February 1927, the husband called me to look over and care for the entire family of five who had met with an automobile accident. The patient's back had been severely lesioned and the uterus tilted to one side causing much pain and inflammation. An ulcer and erosions were found on the cervix which required a long series of treatments. The patient reported that after years of painful menstrual periods she experienced no discomfort after that series of treatments, until the fall in August. She also said that contraceptive methods had been used during the entire period.

Examination:—Pulse 68, temperature 100.1. Pelvic examination disclosed the cervix boggy, posteriorly, with patulous os dilated enough to admit one finger. No mass presented to the finger. There was no mass or tenderness of the uterus or vaginal walls. Blood appeared to be flowing slowly from the os. Believing the patient to be threatened with miscarriage the vagina was loosely packed with sterile gauze and a gentle enema ordered. The patient was sure that the diagnosis must be incorrect due to the preventive measures taken. The following day the packing was changed in the forenoon, and the patient was advised to go to the hospital, which she refused to do. Instructions were given to call me at the slightest change in pain or flow. Late that evening the patient called me to hurry down as she was experiencing regular pains. Upon examination I found temperature 101.2, pulse 68. The os was enlarged to two fingerbreadths. The patient was prepared for delivery and an obstetrician was called to hear the history and the treatment which had been instituted, to bear witness that no illegal operation took place, and to take the case to the hospital if necessity demanded. Osteopathic care appeared to rest the patient between pains and help her at their onset; while the obstetrician was preparing his instruments and the gas-oxygen in the kitchen, I delivered the mother of a four-months male fetus with placenta intact. Curettage was not done. No complications arose.

The patient was kept in bed two and a half weeks and then allowed to sit up a few minutes at a time for another week. She made an uneventful recovery. (She spoke several times of the fact that an osteopath did not treat her back before investigation). The family has always appreciated osteopathic care since it was first received.

Note:—The history of this family may be of interest. They were first seen by me in 1923 when the husband was near suffocation from partial excised scraps of tonsillar tissue left by a medical doctor who lanced both tonsils twice on two successive days in a bad case of peritonsillar

abscess. After making the patient safe and comfortable, for my protection I called an osteopathic surgeon to remove the tissue and open the abscess on the left side. I did not wish his original doctor to have any occasion to blame an osteopathic physician. The right side ulcerated but it drained behind the anterior pillar. At the same time the youngest child was suffering from otitis media which was successfully treated without paracentesis. (Early paracentesis is usually advisable). I was once called to see the husband who suddenly became ill and broke out with a bright red rash from neck to ankles in appearance like scarlet fever, but without some of its signs. In my examination, I found an ulcerated wisdom tooth of which the man was entirely unaware. Upon extraction of the tooth the rash subsided. The same man showed sugar in the urine for six weeks following the automobile accident in February, 1927. I attributed this to the mental shock.

THE STANDARD

S. V. ROBUCK, D.O.

It is an odd thing that the merits of diagnosis should need discussion by a body of physicians of any school of practice. Its necessity seems so axiomatic that to question its value is to question the accepted factors concerning health and disease, and to question whether or not practically all students of the subject are wrong in their conclusions regarding physiological-pathology and structural pathology. If it still remains to discover the real facts concerning physiology and those deviations we recognize as diseases or pathological processes, then, undoubtedly, all the students of the present and past, including Andrew T. Still, have been following the wrong line of investigation, and future students must start all over and investigate along entirely different lines.

Be that as time, study and sacrifice will determine, this one thing is obvious: we have acquired a certain knowledge of processes, normal and abnormal, and the problems are brought to us every day and must receive attention commensurate with the needs of the individual seeking liberation from the enslaving and devitalizing perversions. By utilizing all we can learn from Hippocrates, Harvey, Lister, Osler, Roentgen, Mackenzie, Cabot, Still, and many others who have contributed much to the understanding of physiology, pathology and symptomatology, there still remains too much that is unknown. However, the fact doesn't excuse carelessness and mediocracy in practice. The patient comes pleading to the doctor. He or she is at the mercy of the doctor's ignorance or indolence.

The term doctor comes from the word docere, which means to teach. This was the term applied when those treating the sick were the sole instructors of the young men who aspired to practice the healing art. Before the days of medical colleges, there was no other way to obtain a knowledge of the subject. Hence, the practitioner became a doctor—a teacher—to others learning his profession. At that time it was not customary to teach the patient regarding his health or disease. This did not seem to become a desirable thing to do until after the advent of osteopathy. Dr. Still was forced to do this. Laymen were the only ones he could get to listen to what he had to say. His language was such that they could understand and he demonstrated in such a manner that there was no mistaking it that he was speaking the truth. This marked the beginning of doctoring, or teaching the public. The public is far wiser regarding health matters that it was twenty years ago, but has much to learn yet.

The public has not yet acquired enough knowledge of good and bad doctoring to properly discriminate—just as physicians have not acquired enough knowledge of commercial practices to discriminate in the matter of business ventures. Most of my readers will understand the latter difficulty from disappointing experiences. Experience is a great teacher but a most expensive one. Instruction is far less expensive, and an apt student is one who learns from instruction and observation. Patients do not have adequate opportunity to observe behind the scenes, so they must rely upon instruction. How well we have instructed by word, writing and deed is reflected in the attitude of our present clientele and those who have not had such intimate contacts.

The attitude of our clientele, to a large extent, is still much the attitude of a customer to a physical culture expert. This is not entirely true, but almost. It is very discouraging at times. Perhaps if our attitude toward our relation with patients had been different, this impression of us and our science would be more in keeping with the dignity and confidence osteopathy merits. The first base has been reached in teaching the public regarding health and osteopathy. Now let us make the run to second base. This necessitates a more inclusive and comprehensive conception of the problems and difficulties confronting us. We are progressing into a new phase of the game and other factors must be considered that were not confronting us in the beginning.

The further we progress and the more territory we cover, the more we become a menace to opponents—the more difficult our progress becomes. More and better training becomes essential. The necessity of better teaching of our clientele becomes obvious—not so much more teaching as better teaching. The problem becomes more and more one of individuality and personality, plus ability. Ability incorporates individuality, personality, good judgment, integrity and good technical training.

Unfortunately, to date, technical training has been confined to scientific training as it concerns the so-called fundamentals of a scientific education. The development of good judgment has been neglected because the equation of individuality and personality of the doctor and patient has not been given due consideration. Too often a doctor who has enough knowledge of the so-called science of his profession has not been taught the perspective of his relation to the patient.

By the very nature of their work, physicians are engaged in a profession that must have its altruistic phase. However, they should learn where to exercise altruism and where it is contraindicated. A knowledge of how to control this relationship with the patient carries with it two important factors. First, how to manage the patient to get him to cooperate with the doctor, and, second, how to arrange business relations that will be proper and satisfactory to both patient and physician. The management of the latter has much to do with the success of the first factor mentioned, so it will be considered now.

Discussion of the business relation of patient and physician is justifiable and proper in view of the fact that their continued friendly relation and the respect of patient for physicians is dependent upon this arrangement to a large extent; and also because of the fact that the efficiency of the doctor's service is dependent upon this more than is realized unless it has been given considerable thought.

The physician has to educate the patient along these lines because common practice with physicians, heretofore, has been void of anything simulating business methods. Their lack of sound methods has served to pauperize physicians and encourage dishonesty among laity, many of whom are so-called respectable citizens. Inefficiency in business methods has been misinterpreted by the doctor as being altruism. Altruism has to do with rendering excellent service to all—rich or poor. It does not call for free service to those able to pay for it at the expense of the doctor's living standards.

By living standards is not meant how many clubs the doctor can afford or whether or not he can smoke twenty-five cent cigars. What is sacrificed with inefficient methods that both physician and public can ill afford is sufficient funds and time to enable the doctor to take special postgraduate work every year and benefit by the professional contacts of conventions, etc. It has also to do with the doctor having time for self-advancement, culturally, along other lines, and time to develop contacts that will make him a more important citizen in the community in which he resides.

Many doctors have buried themselves in their offices —it would be incorrect to say practices, because they often have little practice—and have become so obsessed with the idea of sticking to their post lest a patient be lost that they become indifferent to the great privileges and opportunities that are at hand. Their personality becomes dwarfed and their vision dimmed, and their service to patients restricted because of limited contacts with things relating to the profession and to the human factors pertaining to the patient's individualities. Better living standards for the physician increase his mental

capacity and make life richer, increasing possibilities to practice real altruism where it should be practiced, and at the same time insure him and his family against the embarrassment of having to be cared for in old age and buried by friends.

American Osteopathic Society of Proctology

R. R. NORWOOD, President
Norwood Bldg., Mineral Wells, Tex.
EUGENE F. PELLETTE, Secretary-Treasurer
People's Bank Bldg., Liberal, Kans.

CONSERVATIVE PROCTOLOGY

PERCY H. WOODALL, D.O.

Proctology receives the least attention of all the specialties in medicine. There is doubtless less general knowledge of the diseases of the rectum and anus than of any other part of the human body. This is not only unfortunate for the many sufferers, directly or indirectly, from proctological diseases (estimated to be one out of every seven individuals) but is unpardonable on the part of physicians. They recognize this region of the body as one that is often diseased, one that is richly supplied with both sympathetic and cerebrospinal nerves and a most prolific source of unlimited and widespread reflexes. Heretofore the recognized treatment for this region was radical surgery, which may account for the little attention it has received at the hands of the general practitioner. Nor should we be surprised that many otherwise well-informed physicians still think that the treatment of rectal diseases comes distinctly under the province of the surgeon. Such as these think it rank heresy to state that 98 per cent of rectal and anal diseases, excepting malignancies, tuberculosis and the worst forms of fistula, can be successfully treated by the general practitioner in his own office, the patient remaining up and at his usual vocation, or ambulant, during the course of the treatment.

Ambulant proctology is conservative; it conserves the patient's health in that it prevents operative risks and dangers and postoperative complications. It conserves the patient's tissues in that cutting operations or tissue destruction is eliminated in most cases, and when it does become necessary the least possible amount is done to secure satisfactory results. It conserves the patient's feelings in that general anesthetics are rarely necessary, yet the treatments are remarkably free from pain. It conserves the patient's time and resources in that he remains at work during the course of treatment and is saved burdensome hospital charges. This is a matter of great economic importance not only to the wage earner but to the man of affairs as well.

Conservative proctology may then be defined as that practice of proctology whose purpose is a maximum benefit to the patient with a minimum of physical, nervous and economic reaction. There are certain general advantages inherent in these methods to which attention will be called even though it involves repetition.

(1) The patient is ambulant. He is not confined to bed at any time during the treatment but continues at his usual vocation. There is no interference with his business or pleasure;

(2) The infrequent use of anesthetics, particularly general anesthetics, and when used at all the anesthetic is of short duration and the safest are used;

(3) Freedom from pain. The treatments are for the most part painless, and when pain is present it is so insignificant that only a small proportion of patients complain of it;

(4) Safety—which applies not only to the immediate treatment but to after-treatment complications. These methods are therefore applicable to cases in which the ordinary, radical methods are contra-indicated—heart and renal diseases, pregnancy, old age, etc.

(5) Economy; no loss of time or wages, no hospital expense;

(6) Simplicity; for there is opportunity for using all of the knowledge, skill and judgment that one can acquire in administering these methods, yet they are office treatments. Their application does not require all of the paraphernalia of the modern hospital nor all of the technic of a major surgical operation. Not merely the few but the rank and file of the profession can become proficient in their use.

These methods have peculiar advantages in certain diseases. Hemorrhoids constitute about one-third of rectal diseases. Of these perhaps ninety per cent are internal hemorrhoids. In these the conservative methods more nearly approach a specific than in the treatment of any other disease of which I know. Practically all are curable. The conservative or ambulant treatment of internal hemorrhoids, as far as I have been able to learn, originated in Illinois in 1871. The originator, one Mitchell, whether M.D. or not I do not know, sold his secret pile curing formula to those who would buy. No doubt many who secured the formula were ignorant, uneducated and untrained. Nevertheless their successes attracted attention and the opposition of the surgeons. In 1876, Dr. Andrews published a report of 3300 cases treated by some 300 doctors, or an average of about eleven per doctor. If this adverse report be analyzed it will be found to compare favorably with the best surgical results of today. A mortality of a little less than .05%. Severe pain in about 7%. Sloughing and other accidents (whatever that may mean), about 1%. Stricture of rectum .001. Because I had never taken the time to analyze and compare this report I lost five years during which I might have been practicing the conservative methods. Remember, this was more than fifty years ago and as great progress has been made in this treatment as has been made in surgery during the same length of time. Solutions have been improved, technic has been perfected, so that the complications then seen have been almost entirely eliminated. A conservative and dependable treatment has been evolved. Certain comparisons should convince the thoughtful. As against an average confinement of eleven days in the hospital, which is the record of one of the best Eastern hospitals, besides several additional days for convalescence, only a few office visits are necessary, each one taking only a few minutes of the patient's time. Relief, immediate and pronounced, usually follows the first treatment. No anesthetics are necessary and their dread and their dangers are eliminated. Pain, if present at all, is insignificant in 98 per cent of cases while the usual operation for hemorrhoids is notoriously painful. So far as my experience and observation go, there have been no serious complications—no deaths, strictures, or incontinence, no ulcers, fistulae, or skin tags, all of which have followed surgical removal of hemorrhoids. Nor is any destruction of tissue to be replaced by scar tissue. For this reason the mucous membrane is to all appearances and tests free of scars and retains its normal flexibility and elasticity.

Recurrences are less frequent than after operation. The late Dr. Pennington stated that more than 10 per cent of cases presenting themselves for operation had been operated upon before. This is no doubt due to the fact that all hemorrhoidal tissue was not removed, small masses remained that later became large hemorrhoids. In the conservative methods the treatment can be continued until all hemorrhoidal tissue is normalized. Recurrences are thus less frequent than after operation. Should they occur it is only a matter of a visit or two to the physician's office, and not another operation.

These methods are more generally applicable than surgery. The cases in the aged, in the victims of heart and renal diseases and in pregnant women in which operations can not be performed will outnumber the few cases that have been neglected and in which surgical removal is indicated.

For fissure one office treatment is sufficient. One of the evanescent general anesthetics may be used, but relief is immediate and a cure is completed in a few days, the patient remaining ambulant.

In fistula the ordinary or radical surgical methods have been very unsatisfactory. The conservative methods offer a more certain, a less risky and an ambulant cure. Many of the failures of radical surgery have been cured by these methods.

Pruritus ani is another of the diseases intractable under ordinary treatment. Conservative methods present a new theory of etiology and pathology in this disease and proves its theory by the cure of some of the most aggravated cases.

Pockets and papillae are the source of many local and reflex disturbances. Their removal necessitates a local anesthetic but the treatment remains an office and ambulant one. The same is true of polypi.

An appeal is made for more interest in diseases of the anus and rectum. It will more than repay the effort made in a better understanding of many otherwise obscure conditions, even though no thought of treating them as a specialty is entertained. As a specialty it offers a most inviting field to the progressive physician. Rectal specialists are few, and by the adoption of conservative or ambulant methods the general practitioner can better serve his clientele and enlarge his field of usefulness.

CRYPTS AND PAPILLAE

EUGENE F. PELLETTE, D.O.

About one to one and a half inches above the external anal aperture, at the top of the anal canal, where it joins the rectum, there is a line of small tooth-like projections called papillae, which encircles the anal canal. At this anorectal junction are also the crypts of Morgagni, which are normally small pockets about one-fourth of an inch or less in depth.

In front of, or projecting from the margin of, each pocket or crypt there is a slightly elongated mucus membrane teat, about one-eighth to one-fourth inch in length normally, which is called a papilla. When this papilla becomes elongated to over one-fourth to one-half inch or longer, it usually irritates and causes reflex nervous symptoms and should be removed. A papilla may even become long enough to come down through the sphincter muscle and protrude out, in which case it produces a very uncomfortable feeling within the grasp of the sphincter muscle.

You can sometimes feel a hypertrophied papilla with the finger in the rectum. It is quite firm and may look like a long angle worm through the speculum. Normal papillae, of course, should be left alone.

Sometimes a papilla tears downwards toward the anus, forming a fissure It may act like a hangnail and cause considerable pain and irritation in this case.

The symptoms of lengthened crypts or of hypertrophied papillae may be either local or reflex, and no particular symptoms would be characteristic. However, some cases of pruritis ani are caused by cryptitis. There might be some local pain with a deep, inflamed crypt. Also a large papilla causes a deal of pain if it protrudes and gets pinched between the sphincter muscles. Most symptoms of cryptitis and papillitis, however, are reflex nervous symptoms.

Formerly I injected these hypertrophied papillae with a local anesthetic, but found that unless quite large it was better not to, as the pain of injection was as great or greater than to merely snip them off with curved scissors without an anesthetic. Of course they are very sensitive, but after picking them up with a forceps one quick snip of the scissors gives but little pain, over in an instant; and then, too, the anesthetic, if given, destroys the landmarks over which to cut, due to the swelling it produces. If they are very large I use a wire nasal snare over the base of the papilla and then inject before cutting them off. The bleeding is usually so trifling I pay no attention to it.

Hypertrophied papillae may exist without pockets, or pockets may exist without papillae. The pockets or deep crypts may be found between the papillae or an enlarged papilla may be found between crypts, but usually the arrangement is crypts back of the papillae.

The crypts or small pockets are also normal if not inflamed, or infected, or too deep; but if more than about one-fourth inch in depth, they are apt to catch and retain feces and infection will ensue, causing cryptitis or inflammation of the crypts. These enlarged crypts or pockets are, of course, pointed downward with the opening at the top, and are diagnosed by a blunt hook engaging the pocket from above.

If the crypts need to be cut out, it is done by lifting up the hook which is engaged into the crypt, and the membrane which is thin is easily cut through with the curved scissors and the hook covered with membrane is carried out. No anesthetic is used because the pain of injection is greater than operation without. In hunting for crypts, we fish through the speculum with the blunt hook, along the sides of the rectal region, raking lightly down on all sides. There is little bleeding or after pain, when they are cut out.

To control bleeding, after removing extra large papillae, I use either mentholin blue or a solution of iron and alum on a piece of cotton.

I have found several papillae as long as three inches, and large around as a lead pencil. Patients usually think they are piles as they come down with bowel movement and strangulate when the sphincter muscle pinches them. They are a little hard to push back on account of the pain. Smaller hypertrophied papillae may be about one-half inch long with whitish tips. If over about one-fourth inch long, I amputate.

Osteopathic Physical Therapy Society

M. L. HARTWELL, President
406 Schneider Bldg., St. Joseph, Mo.

PHYSICAL THERAPY SOCIETY AFFILIATES WITH A. O. A.

The Osteopathic Physical Therapy Society perfected its organization at the Kirksville Convention last July and immediately applied to the A. O. A. trustees for affiliation and for a section on the annual national A .O. A. convention program.

The A. O. A. trustees granted the request and the Des Moines meeting will have an official section on physical therapy devoted to discussion of known scientific electrical and light ray therapeutics and diagnostic methods. The section chairman is Dr. J. E. Matson, 1435 W. 31st St., Minneapolis, Minn.

Requests and suggestions for this section program should be communicated to Dr. Matson early in the year.

The society enrolled twenty-five members at the Kirksville meeting, elected officers for the year, decided the dues for the current year to be $2.00; chose the next business meeting date and place to be the same as the annual A. O. A. convention and approved the following objects of the organization:

1. To investigate, study and improve physical methods, forces and instruments for the diagnosis, treatment and prevention of disease.

2. To correlate the results of scientific research work on physical-therapy methods.

3. The promotion of scientific study of electricity and light rays and other physical measures through the publication of authenticated articles and the teaching of proven technic with scientific modalities.

4. To create a library and indexing system of authoritative books, magazines and articles of the world on physiotherapy, with a secretary to provide information gleaned from the library on definite subjects at the request of members of the society.

Officers for the year were elected as follows: President, Dr. M. L. Hartwell, St. Joseph, Mo.; secretary, Dr. J. E. Matson, Minneapolis, Minn.; vice-president, Dr. C. E. Clark, Pomona, Calif.; treasurer, Dr. H. K. Groff, Mason City, Iowa

The Art of Practice

HAROLD I. MAGOUN, Chairman

Several requests have come for some of the points brought out in this section at the Kirksville convention. Therefore we are planning to give a few from time to time and also solicit contributions to this column which may prove mutually beneficial.

Mrs. Kjerner of Kansas City suggested spraying the office with oil of sassafras to dispel offending odors. We have inaugurated it to our great satisfaction. It has a delightfully clean smell. A few squeezes of the atomizer bulb in front of the electric fan and the whole suite of rooms is permeated. Try it. We much prefer it to incense which we have used in the past.

Another frequent request has been for information concerning the "Physiological Chart of the Autonomic Nervous System" which is such a help in diagnosis and treatment. This should be in every office where osteopathy is practiced. It can be obtained from the author,

Dr. Milton A. Kranz, at the Monte Sano Hospital in Los Angeles or from the A. O. A. office at Chicago.

We have already engaged several excellent speakers for the section meeting in Des Moines. There is still room for more. Tell us what you want from time to time and we will endeavor to secure it.

ATTENTION, D.O. LIONS

All D.O. Lions begin planning now for the big luncheon to be held at Des Moines during the 1929 convention. It will be a real Lions gathering with a tail twister an' everythin'. There will also be a photograph taken for the O. M. A wonderful opportunity for some real publicity and a good time.

In the meantime we want you to do two things:

First, send us your suggestions for Dolion activities so that we may put them in this column, suggestions as to programs, activities, speeches, personal work and other methods of furthering the cause. Remember, you do not represent osteopathy in Lionsm but you do represent Lionism in osteopathy. Either way see to it that you are a worth-while representative.

Second, carry out your own suggestions or one of the following:

(a) Spread Dolion influence by seeing to it that all newly organized clubs contain one or two osteopathic physicians. Maybe there is room for another in your den.

(b) Many Lions clubs have sponsored orthopedic, dental, eye and other types of clinics. Why not an osteopathic? Call it spinal curvature or what you will.

(c) Make an opportunity to talk before your club on some health topic.

(d) Be the merit badge examiner and first aid instructor in the troop of Boy Scouts which your den is sponsoring.

(e) Tackle the problem of the delinquent child along with the school nurse or the psycho-analyist. Dr. Jennie Ryel's article "The Problem Child" in THE JOURNAL, March, 1928, p. 545, is an inspiration along this line.

(f) Take the last number of the O. M. and put the matter of caring for the high school athletic teams up to the club or the school board.

(g) Have the club send a crippled child to one of our college clinics.

ECHOES FROM THE BYNUM FOOT COURSE

Dr. John Groenewoud of Chicago sends in the following case record card which has the appeal of being simple and easily filled in but fairly complete withal.

FOOT CASE RECORD DATE_____

NAME_____ ADDRESS_____ PHONE_____

AGE_____ OCCUPATION_____ HEIGHT_____ WEIGHT_____

CASE HISTORY:

TENDONS:

RIGHT FOOT		LEFT FOOT	ARCHES: TRANSVERSE
	ASTRAG.		
	SCAP.		LONGITUDINAL:
	INT. CUN.		
	MID. CUN.		ANTERIOR:
	EXT. CUN.		
	CUBOID		
METATARSAL			PHALANGES:
LUMBAR			SACRO-ILIAC

REMARKS:

We should like to quote further some commendations which we have received. "After seeing results obtained for five years by osteopathic physicians using several leading systems of foot technic and after using some of these methods myself for several years I am convinced that Dr. H. R. Bynum's compound leverage methods are the best yet offered to the profession. They are logical and scientific and are calculated to care for the associated anatomical defects, pathologies and reflexes which are often serious complications."

"Dr. Bynum is a painstaking, patient, and inspiring instructor and gives a sense of assurance to his understudies."

Colleges

CHICAGO COLLEGE OF OSTEOPATHY

The Chicago College of Osteopathy opened its 1928-29 year with an enrollment of one less than last year. There has been some change in personnel on the faculty, as usual, but in general the work is going just a little better than last year.

One of the freshmen, Mr. Fisler, suffered the loss of his mother just after entering; one of the sophomore class, Mr. Gaddie, lost his father within a week after the opening of the term; and a third, Mr. Burns, was called home by an unfavorable turn in the health of his father after only two weeks with us. Mr. Burns will be away for some time, but the others will be back at work promptly.

The annual corporation meeting, held on September 27, resulted in the election of Drs. Morris Berk, E. R. Hoskins, S. D. Zaph and F. F. Peckham as trustees.

Dr. H. L. Collins was re-elected president, Dr. C. A. Fink was chosen vice-president, Dr. B. F. Wells was selected for another term as acting dean and secretary and Dr. Fred Bischoff will be treasurer for the next year.

There has been no change in management of either college or hospital for the present term. Mrs. A. F. Kanouse is now acting as secretary to the dean and caring for the library, and Miss S. E. Bates has taken complete charge of matters in the laboratories.

The daily grind was somewhat relieved the second week by the sophomore-freshman class rush, but aside from the roughening of the dispositions of one or two, no serious trouble resulted. The inter-class football game will give the greencaps an opportunity for revenge.

The college will offer its annual postgraduate course in the college building the week of December 31 to January 5. Committees have been appointed, and some tentative plans made for the most instructive week ever spent at the college. Detailed announcement will be made later. There will be no tuition charge.

At the next faculty meeting plans will be formulated to prepare a list of lecturers and subjects which will be available wherever osteopathic talks are wanted. Applications will be made to the college office and assignments will be made from there. We feel this will make it much easier for those doctors who are proficient in public speaking to be brought in closer contact with such organizations as may be in need of their services.

Remember that our January class, entering January 7, will be able, by working one summer quarter, to enter the sophomore year with the class which began work on October first. We want a class of at least twenty-five members and are enrolling some of that number now.

COLLEGE OF OSTEOPATHIC PHYSICIANS AND SURGEONS

School opened October 1 with an enrollment of sixty-one in the premedical science class, seventy-one in the freshman class, forty in the sophomore class, fifty-four in the junior class, fifty-two in the senior class, ten postgraduates and one special, making a total of 289 students.

It is interesting to note, since the number of freshman students is the keynote to the growth of the college, that the number enrolled this year represents almost 50% increase, there being forty-nine freshmen registered a year ago last September. The total number of new students entering this school this year is eighty-three. Most of these are in the premedical science class, next to that the freshman class, with a few transfers from other colleges in the upper classes.

The other point of interest as marked progress in education is our arrangement with the Los Angeles General Hospital, Unit No. 2, that is, the osteopathic division, that our seniors shall spend one-third of the senior year in practical interne type of work in the unit which will give them close contact with the bed patients as well as outside patients. They will spend eight hours a day there for one-third of the year. This will give them a very practical training, this unit having 244-bed capacity and containing all services, including acute and contagious diseases and

even an insanity ward. Our seniors will also spend another third of the year in the clinic doing practical work altogether, so that, only one-third of the last year will be devoted to theory and classroom work. This is a marked step in advance for practical training of students, and with the further requirements of some four weeks on the City Maternity Service, in which each student will average probably at least twenty cases where he will personally make the delivery, we feel that we are establishing ample clinical facilities for the adequate education of our students.

Dr. Carl P. McConnell, late of Chicago and now of Los Angeles, will take charge of the Osteopathic Research Department which has been newly organized, and will include statistical investigation and other types of study of research on the human in connection with our clinic cases. The results of his work will be published in due time, probably in The JOURNAL.

L. VAN H. GERDINE,
President.

DES MOINES STILL COLLEGE OF OSTEOPATHY

School has started off with a bang. Classes have all been organized and the work is going forward in fine shape. This year marks the end of the third decade in the history of the college, and with this reminder and a review of the history of the college at our first assembly all have determined to make the next decade a real history-making series of years.

Assemblies so far have been more than interesting. Our first, as usual, was for the purpose of introducing the freshmen and getting acquainted with the general line-up of the work for the year. Each year we think the freshmen look better than the previous one, and this is true. Iowa holds first place in the percentage list, taking the lead over Ohio which stands second. Minnesota, Michigan and Kansas run a close third, and we have reached out as far as Massachusetts east and Washington west. The boys of the class seem to have survived the various smokers and we notice quite a few pledge pins being worn. So far the sophs have not had to cut any hair or otherwise deface any of the class. They have complied with all rules and are behaving in true professional and ethical style.

The band, under the leadership of Dr. Halladay, has made its first public appearance, and with the addition of considerable talent from the new class, promises to be the best we have had yet. New music has been secured and the boys are rehearsing regularly. We anticipate the return of the jazz orchestra at a convenient time, and it is rumored that there is some loose vocal talent that needs to be taken care of.

The football team has made a good showing, holding Parsons to a tie in spite of numerous injuries. The efficiency of osteopathy was shown at this game, when the attending physician had to set an elbow and take care of several other injuries that might have proven serious. Our first home game will be with Peru Normal, and if the team cannot win the band will be out to take care of the visitors.

Dr. Halladay returned from the Nebraska convention with a great deal of praise for the work being done over the state. Dr. J. P. Schwartz attended the surgical meeting at Wichita, reporting a fine gathering and most excellent meeting from every standpoint. Dr. Halladay will attend the Indiana state meeting on October 18, and will spend a day in Chicago conferring with the officials of the A.O.A. relative to the coming convention in Des Moines.

Each of the frats have held dances and other entertainments, and all expect to attend the freshman reception and dance. The "S" Club is planning one of those rousing good times that some of you remember in years past.

The clinic at the college and hospital has increased considerably since the organization of the classes, so that an additional member has been added to the examination staff. The seniors have received their assignments to the various schools for the athletic work, and the obstetrical department reports a long waiting list, so that every senior will have more than his share of this work in our clinic.

In summing up the registration we are happy to report that we have an increase in the number of students over last year, without counting those who will matriculate in the mid-year class. This is highly gratifying and we have every assurance that this will be our best year.

KANSAS CITY COLLEGE OF OSTEOPATHY AND SURGERY

Thirteen may be considered by some as an unlucky number. The thirteenth annual session of the Kansas City College of Osteopathy and Surgery opened September 10 with a whang that augurs well for 1928-1929. Thirty-three students enrolled in the Freshman class. The increase, including advanced students, was exactly forty, making our enrollment 125 for the present scholastic year.

A notable feature about the incoming class is the number of students who have a part or all of the college course as a preliminary. While the school requirement is only an accredited high school course of four years, more than half of the new class have had some college work. Each year it is observable that, more and more, osteopathy is appealing to the better educated class of students. The writer distinctly remembers that in his class of ten, only three had high school education. The rest, or seven, were lacking almost entirely in high school preparation. That was twenty years ago. Now, as the classes are made up, a majority of the matriculants have more than the required high school education.

With the opening of the session, the entire faculty was on its toes to start classes off immediately. This applies to the volunteer staff, as well as the paid instructors, who are attending their classes about 100 per cent. The college staff, as organized this year, is an especially strong one. There are six full-time paid instructors. These instructors pretty well handle all fundamental subjects—as anatomy, physiology, dissection and the laboratory branches. The volunteers, in active practice, instruct in the practice of osteopathy, surgery, obstetrics, diagnosis, etc. Being in practice, they are particularly fitted to teach these practical branches, bringing of their own personal experience and knowledge into the classroom. No student instructors are used—not even as assistants. Thus the students are assured high class instruction in every subject, and their enthusiasm for the school and the success of its graduates in the field are fitting tributes to the practical instruction given.

Financially, the Kansas City College of Osteopathy and Surgery is in better shape than it has ever been before. The board is carefully husbanding its resources and directing them into channels where they will do most good for osteopathic education. A second mortgage on the property has been retired and a substantial payment made on the first, which latter is now reduced to a comparatively small figure. In fact, financially, the College is in such good shape that material improvements in buildings and equipment are under serious contemplation before the opening of another session.

A mid-year class has been decided on again this year, to start about the middle of January, and present expectations are that it will surpass any previous mid-year class. Names of prospective students are desired for this class.

A. A. KAISER, Secretary.

ADDITIONAL NEWS NOTES

The opening assembly was held Monday, September 10, and the work of the year was outlined by Dean Peach. Interesting, inspiring and encouraging speeches were given by Dr. George J. Conley, Dr. Hanna Leinbach and Dr. Margaret Jones. They never fail to give us something worth while. A number of songs were rendered by the student body. Dr. A. A. Kaiser was unable to be present at that time, and a rising vote was given to send him a wire telling of the splendid opening. We are very glad to say that his health has improved so that he can be with us now.

To say that we have a lively group of freshmen this year would be putting it mildly. They have a lot of talent and enthusiasm, and have displayed real sportsmanship in their conduct. The program they gave us in assembly proved beyond a doubt that they are not half as green as they look, or, as we usually expect of freshmen; and if they hand out osteopathy with the same degree of punch exhibited in their stunts their patients will get what they came for. The entertainment was given atmosphere

by the use of a microphone, and the program was broadcast from station BONE. The numbers were varied and interesting and showed real ability. They showed real courage, too, in view of the fact that they had just been subjected to their initiatory paddling out on the campus. Following the program, candy and apples were served. Everyone felt that they had given us a real treat, and should be received as regular students of the college without further initiation.

Dr. George J. Conley has been away from the hospital and classroom for a week. He spoke on Surgical Diagnosis at the Kansas State convention at Larned. Dr. Marty, of the hospital staff, lectured to the juniors and seniors in his stead.

Of no little interest in osteopathic circles in Kansas City was the birth of a daughter to Dr. and Mrs. G. N. Gillum on September 28. She has been named Jean Camille.

Dr. Hanna Leinbach is vacationing in the Ozarks at present. The seniors understand that they will not have to "diet" for a couple of weeks now.

Dr. Styles has just left for Nashville, Tenn., where he will speak at the state convention.

KIRKSVILLE COLLEGE OF OSTEOPATHY AND SURGERY

Registration of students closed September 24, with a new class of one hundred and twelve students. This group includes ten women, and a large number of those enrolled have had previous college education. The class has a progressive spirit and readily organized as a definite part of the college. Football men were very popular at the first meeting for the election of officers. Russell E. Pierce was chosen temporary president, Lingel A. Winters secretary-treasurer and Miss Helen Thornberg vice-president. By the latter part of the month the green caps were issued and about the same time "June '32" made its appearance on the gas tower, new and bright over the background of many other numerals of former classes. In accordance with the custom in former years, the freshmen entertained the sophomores with a picnic in the gymnasium, October 4.

Three professors formerly associated with the school have returned to assume positions on the faculty. We welcome these doctors back and feel the advantage of instruction from such experienced practitioners. Dr. Arthur D. Becker, former dean of the new school, will have charge of the practice and clinic departments. Dr. John H. Denby will fill the chair in anatomy and director of practice clinics. Dr. Carle Koehler, house physician of Laughlin Hospital, will give light on the subject of roentgenology and act as associate professor of technic.

The football team promises to be one of the best in Ram history this year. The freshman class has provided a number of new recruits with great possibilities, and many letter men of last year have reported back for duty. Dr. Meyers has trained the squad hard, and the condition of the team as well as their ability to play is evidently better than ever, as they start out on a heavy schedule for the season. The success of the 1927 aggregation cannot be forgotten, but this new herd will undoubtedly graze a larger territory and produce more than their predecessors. Material is at hand, and a higher type of play as outlined by Coach Meyers will make a winner and "pull the wool over their eyes."

In the first game of the season with the Arkansas Polytechnic "Wonder Boys," a taste of victory was afforded the student body in a spectacular display of football ability. The fans of Kirksville have not experienced such excitement from gridiron maneuvering in many a day. The crowded stands were wild as last year's star, Harold Wendler, received the initial kick-off and successfully carried the ball 97 yards back for a touchdown. Sonny Winters followed up in a few minutes with a 60-yard dash for a touchdown on a recovered fumble. But the teams soon settled down to hard and steady fighting. The Rams presented a team uniform in action, exceptional in aerial attack, and aggressive against the heavier opposing team. The final score of 34 to 6 explains the strength of our pigskin heroes.

Dr. W. E. Waldo, class of 1910, president of the Waldo Sanatorium at Seattle, visited the school recently and gave an inspiring talk to the students in assembly. Dr. Waldo stressed the importance of the new doctor being a family physician, and presented many helpful suggestions for those entering the practice of osteopathy.

The Sigma Sigma Phi scholarship cup has been awarded to the Atlas Club, for the highest scholastic record maintained by any fraternal organization during the past school year. Competition was keen last year, the cup being won by a very small margin, and all but one of the organizations raised their former marks.

Dr. W. O. Kingsbury, of New York, visited the school as a part of his tour of the country, acquainting himself with the various colleges of osteopathy. Dr. Kingsbury is a graduate of Philadelphia, 1926, and is associated with the New York Osteopathic Clinic in addition to his private practice.

Dr. Petermeyer, house physician and chief surgeon of K. C. O. S. Hospital, has initiated one of his hobbies into the service of osteopathy. As a former student of aviation he has demonstrated that practical use of the airplane for emergency calls several times in late months. The idea becomes even more practical when we consider the conditions of roads in Missouri and near-by states, and the plan has many possibilities.

PHILADELPHIA COLLEGE OF OSTEOPATHY

Ninety freshmen students have matriculated this fall. These students come exceptionally well prepared for their work here, and the vigor and zeal with which they have entered upon study is an inspiration to their instructors. Thirty-one of these matriculants have attended other colleges and universities prior to the study of osteopathy. This freshman class has representatives from practically all the states along the Atlantic seaboard, in addition to students from Canada, England, France and Ireland.

Dr. H. Walter Evans, diagnostician of the clinical department, featured a program sponsored by the District of Columbia Osteopathic Society on Thursday, October 4, preliminary to the Ninth Annual Convention of the Middle Atlantic States Association held at the Washington Hotel, Washington, D. C., the two following days. Dr. Evans demonstrated the methods employed in the Philadelphia College in following cases through from examination to diagnosis and the prescription of treatment. Following the Association dinner, Dr. Evans addressed the society on the "Diagnosis and Prognosis of Sterility." The Friday and Saturday programs included talks by Drs. Ira W. Drew and C. Haddon Soden of the Philadelphia college faculty. Drs. Francis A. Finnerty and Henry S. Liebert, graduates of the Philadelphia College, also took part in the program, and Dr. Edward A. Green, registrar, represented the college.

On October 8, Mr. Alfred P. Post, president of the board of directors, gave a radio talk on "Osteopathic Health" over Station WFI.

On Saturday, October 13, the annual outing at Dr. J. Ivan Dufur's Sanatorium for Nervous and Mental Diseases took place. The entire student body and faculty boarded chartered buses and journeyed to Ambler. The Frosh-Juniors engaged the Sophs-Seniors in a game of baseball, the Frosh-Juniors emerging victorious with a score of 3-2. After the game lunch was served on the spacious veranda. The country air and the baseball apparently worked up large appetites for the sandwiches, "hot dogs," doughnuts and coffee disappeared rapidly. Cards and dancing followed and the students had a glorious day, due to the gracious hospitality of Dr. and Mrs. Dufur.

Several local high school football coaches have requested that osteopathic care be arranged for their students to keep them in good physical condition. Senior students of the college, directed by the head of the general dispensary and resident physician, Reid Laughton, are now working daily with these teams. Coaches of Central High, West Philadelphia and Northeast High teams commend the services rendered, as was the case during the entire last season.

In the absence of our former athletic director, Dr. Milton F. D'Eliscu, who is in Japan with the Olympic swimming team, Dr. William D. Champion, '23, a baseball and basketball star in his college days, will assume charge of the A. A. affairs. With a squad of between twenty and

thirty men eligible for the Varsity basketball team and a number of talented basket tossers in the '32 Freshman class, great things are forecast with the advent of the season. Coach Secor will handle the Varsity squad while he will be ably assisted with the Freshmen and Girls' teams by German, '31, and Ostermayer, '32, both with unquestioned coaching ability. The schedule, which includes approximately seventeen games, includes a number of strong teams. The Varsity basketball schedule is as follows:

Dec. 1—South Jersey Law School
Dec. 5—Temple University
Dec. 8—WashingtonCollege
Dec. 12—Ursinus College
Dec. 14—St. Joseph's College—at home
Jan 4—Swarthmore College
Jan. 9—Drexel Institute
Jan. 11—Villanova College—at home
Jan. 15—St. Joseph's College
Jan. 19—Pennsylvania Military College
Feb. 8—College of Optometry—at home
Feb. 13—Lafayette College
Feb. 16—Moravian College
Feb. 18—Delaware College

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Business Efficiency

THE EFFICIENT OSTEOPATH

C. C. REID, D.O.
Denver

XXIII

TRAINING THE SECRETARY

VI

CONFIDENTIAL MATTERS

Every business has its confidential matters, has its "inner working." There are many things that are best kept from the outside world, and perhaps a physician's business more than most any other line. Some things it is illegal to expose and a physician would be subject to damage, should he disclose them to the world, for example, patients' ailments. The patient tells his ailments to his physician and takes examination with a view to getting well. This is all of a confidential nature. A doctor who gossips about his patients or has someone connected with his business who is so careless or forgetful as to disclose the confidential relation with the patients will greatly damage his business as well as be subject to penalty. This point, of course, should be impressed upon the secretary, even at the risk of repeating things that a sensible girl already knows. There are many other things less vital, however, that should not be disclosed to the outside world.

PUBLICITY

Every business that amounts to much has some method of contact with the public, direct or indirect propaganda, methods of boosting. Even successful doctors use more or less planned methods of reaching the public. This is why many of them run clinics, connect themselves with colleges, spend time in altruistic work, lecture on health topics, write for magazines, go into the social world, have young physicians connected with them whom they are coaching, or send out manuscripts, circulars, magazines and other educational propaganda. Often physicians join together in groups or societies putting on publicity stunts, such as cancer weeks, tuberculosis societies, special clinic days, hospital days, health exhibitions, perfect spine weeks, baby conferences, prize essay contest on some phase of therapeutics, hold meetings, etc., around which they hope to group certain newspaper publicity and call attention of the public to their methods of work. As to just the details of boosting any business it is not good policy to disclose everything to the outside world. This should all be explained to the secretary.

COLLECTIONS

Collections are also of a confidential nature. Many physicians are always ready at the slightest provocation to make some boast about the amount of their collections. This is very undignified and usually serves no good purpose. The secretary of course has "inside information" on the booking and collections and, of course, should understand that it is all of a confidential nature.

HANDLING PATIENTS

Every physician with his help should study the best method of handling patients, partly for the sake of the patient himself, also for the sake of efficiency, the saving of time, doing things the best and easiest way to accomplish the greatest results. These various things of course are not to be divulged to the general public. The secretary should be taught to act and say just enough to boost to all and leave the balance to their imagination.

MISTAKES AND UNSATISFACTORY RESULTS

No physician cures everything. They all at sometime or other, unless they are quitters, have to sign a death certificate. Also there are cases beyond remedy. Many do not cooperate with the physician and results may not be satisfactory, due to the fault of the patient. Also the doctor has his own shortcomings and will necessarily not get one hundred per cent results, due to his own faults. All this is understood by the general public, but details of this kind should not be "aired."

PUBLICITY THROUGH EFFICIENCY

The secretary may be trained to show people through the office with a view to impressing them with the equipment for the best kind of work, explaining the system of caring well for patients. Tact and resourcefulness will mean work referred to the office. It also gives the secretary a chance to speak well of the doctor or doctors and their work. Kind attention given to people by the secretary often counts for just as much as if the doctor did this in person. People recognize the secretary as the doctor's immediate representative. Her personality counts much for the welfare of the practice.

TIDINESS

We have spoken before of the tidiness and habits of the secretary herself. She may do much toward keeping the office tidy at the same time, such as clean towels on the tables and at the lavatory. The towels used on the treatment table as a rule should be removed after every patient. I have noticed in some offices towels left on the table until they begin to look ditry. Soap, hand brushes and combs should be kept clean and neat and in proper place. Plenty of pins should be kept in the dressing rooms in the pin trays. Wrappers should be kept put away and properly cared for. The secretary may often make and sterilize sponges and keep gauze cut in strips of the right size for the work of the office, where small operations are done. She may aid in such operations, sterilizing instruments, dressing, etc. She should see that the office is properly closed and everything left in right condition in the evening. With all this kept up and a good personal appearance with neat clothes and a cheerful countenance efficiency of the office will be greatly enhanced because of the presence of the secretary.

VENTILATION

I have said before the doctor should do the things that others cannot do in the practice and leave the other things as much as possible for the secretary who can do them just as well as he can or better. The secretary may very well take care of the ventilation, see that the windows and doors are kept open or closed as needed. It is well that she should air out the office in the morning if it has been closed and is stuffy. Also at the noon hour this process might be repeated. Doors to the private rooms should always be kept closed during the working hours. If the doctor is or is not busy this condition leaves something for the imagination of those coming into the office.

MAIL

All mail except letters marked personal should be opened by the secretary. Often she will find checks and other matter in the mail which require her personal attention and would not necessarily take any of the doctor's time. Other mail should be placed on his desk ready for inspection.

It is the numerous small things that the secretary may do which count so much in saving the time and energy of the doctor.

DON'TS

Most of the things pertaining to the instruction of the secretary consist of "Do's." A few "Don'ts" may help to clarify the field. Many secretaries especially need one or more of the following "Don'ts."

(a) Don't chew gum in the office, if at all.
(b) Don't talk too much.
(c) Don't eat candy or other food during office hours.
(d) Don't fuss with hair or nails.
(e) Don't laugh too loud, if out loud at all.
(f) Don't halloo back and forth in the office at the doctor or with the doctor, or with any other help or patients.
(g) Don't fail to be cheerful.
(h) Don't sing in the office during working hours.
(i) Don't do any fancy work during office hours.
(j) Don't play games during work day.
(k) Don't argue religion or politics with anyone about the office.
(l) Don't say things against people's hobbies, likes or dislikes unnecessarily.
(m) Don't "visit" on the telephone at any time, give your message quickly, others may be waiting.
(n) Don't waste anything. A little leak may sink a great ship.
(o) Don't do anything that dissipates your energies.

CONCENTRATION

The secretary should concentrate on her work through the day. Often secretaries have enough side issues to dissipate a good deal of their time. It is all very well to do altruistic work, church work, social work, take music, elocution and a great variety of things that girls might become interested in. It should be understood that all of these must be reduced to a minimum as far as time or thought during office hours are concerned. If there is considerable business coming through the office there will be collections to be made, appointments to be kept, bookkeeping to be entered and numerous things that will require the secretary's time that need concentration in order to be done rightly.

Neglect, oversights, mistakes, accidents, etc., are usually the result of lack of interest or of carelessness, neither of which can be continually forgiven. Inefficiency and expensive losses are bound to result from such conditions.

The secretary should see that money that has been collected is properly deposited or safely cared for each day. The bank account should be kept checked properly and a record of all expenses made so that the doctor may know at any time what his financial status is.

Any physician who will read the different articles on Training the Secretary will see the numerous things that she might do to increase his efficiency and save his time and energy and realize that he cannot afford to be without a secretary.

Physiotherapy

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HIGH FREQUENCY IN THE TREATMENT OF DISEASES OF THE NERVOUS SYSTEM

(Continued)

Article XVIII

NEURASTHENIA

There seems to be a large difference of opinion regarding the various phases of this common disease. We cannot hope to even touch upon the causes, symptoms or modes of therapy that are used. We only desire to point to the fact that this is one disease where it is often necessary to treat the symptoms as well as to try and find the underlying causes.

As far as high frequency is concerned, we use it only as a means to correct some of the symptoms which appear, and also in the correction of some of the causes which might appear. These are described under their respective diseases and do not need repetition. We would especially call attention to the use of autocondensation in cases of high blood pressure; and to the use of the high frequency sparks along the spinal area in cases of low blood pressure.

Other forms of physiotherapy, such as the quartz light, will be of more help in the average case.

DISEASES OF THE CENTRAL NERVOUS SYSTEM

Not having had any direct experience in cases of tabes, we are going to outline a writing of Dr. Nagelschmidt on this subject. He seems to present some very rational views regarding several of the diseases of the central nervous system which are well worth consideration:

"Although we are not in doubt about the central and degenerative nature of this disease, I am convinced that some symptoms of this disease are only indirectly connected to its central cause and that they are much more due to troubles in the function of the autonomous system, which, too, explains their incalculable and crises-like occurrence. This gives us the possibility to influence therapeutically by high frequency currents and so to improve very much many symptoms in spite of the persistence even in the progress of the central disease."

"Here the high frequency douche treatment is the essential therapeutical factor and one of enormous efficiency. One covers by the douche electrode all the territory where shooting pains, parasthesias, hyperesthesias, hyperalgesias are present, connecting the other pole of the high frequency machine to a handle electrode. Monopolar application has little or no effect. Immediately after treatment the lancinating pain in some cases has disappeared, but generally the effect is more distinct three to four hours later. The attacks become less severe, more seldom stop altogether."

He observes that "morphinists react more difficultly to the treatment!" In cases of hyperalgesia he uses the two-plate method directly in relation to the part where there is pain, which in these cases remains stationary for hours or days.

"It is the same in crises gastric, bladder, intestinal, vulva, etc. They mostly react best on combined treatment by douche and plate electrodes. Especially the sensation of tenesmus answers quickly on high frequency treatment." In order to test out the suggestive value of the treatment he has given them various hookups and has also had the machine going without direct connection, invariably getting no results.

He finds a corresponding improvement on the sensitive troubles as the sensation of cold, numbness, tingling. etc. "We further observe in nearly all tabetics who are treated by high frequency currents an improvement of the general tonus. The general state becomes better, the sleep sounder, the faculty of the patient to do things increases. It is therefore right to say that high frequency currents are for the present time the most active means which we know of for treatment of many tabetic symptoms.

Quoting again from Negalschmidt's article on the subject of syringomyelia, which is a hopeless condition, we read this, "Syringomyelia has not yet been much experienced with diathermy treatments. I made peculiar observation in a few cases I treated. While patients were not able to distinguish hot and cold at the diseased skin areas, they distinctly felt the diathermic heat. There was no suggestion possible, as I had the machine running with equal noise and patients did not know when I really sent current through them."

NERVE PALSIES

Palsies are classified under two main types, central and peripheral. The first type is due to some form of brain disturbance, either as a disease or injury; the second type or peripheral is due to some form of disturbance as traumatic, inflammatory or pressure. Under nerve palsies we only desire to mention the uses of diathermy in the peripheral types. This includes those specific cases which

we ordinarily call facial paralysis, ulnar or radial paralysis, etc.

Bordier, in his work on Infantile Paralysis, second edition, calls attention to the fact that a "cooled muscle, though healthy, is capable of comporting itself in response to an electrical stimulation like a muscle that is cooled by partial reaction of degeneration; but this disappears when the muscle has been rewarmed by a diathermic current."

Dr. Sabatucci of Rome, remarking on Bordier's observations, and reviewing some of his own work following along the line of Bordier, has this to say: "Following the same teachings, I have undertaken to treat pareses of neuritic origin by means of the galvanic current applied to the affected muscles, but after having first submitted them to diathermia. Everything else being equal, alongside of other methods, it seems to me that Bordier's method is of practical value, for cures have been obtained with this technic much more rapidly than with the customary treatments." He then cites some very remarkable case records where galvanization along with diathermia had produced some very fine results, and in cases that had had but little progress under treatments previous.

PARALYSIS AGITANS

Cumberbatch observes that , "the severest test for a new method of treatment is applied when the treatment is tried for diseases for which no known methods are successful. The disease in which, in my experience, the test has shown the nearest approach to success, is paralysis agitans. Cure or permanent relief has not been obtained, but in some cases a considerable degree of relief has been obtained, and the improvement has been maintained for months."

While our experience with these cases is quite brief and limited to but few cases, yet it bears out to a considerable extent the findings of Cumberbatch. When the time ever comes that we can have the experience and the chances he has had, we hope that our technic may be improved and that our results may be even greater.

The treatment of paralysis agitans seems to be quite successful according to reports of cases from various sources. Understand we do not say that it is cured. However, in some cases so much relief is obtained and the symptoms so abated for the time being, that every case should have the benefit of diathermia.

PARALYSIS FOLLOWING ACUTE ANTERIOR POLIOMYELITIS

In discussing this disease we want to quote from Lovett's Treatment of Infantile Paralysis: "Infantile paralysis is a general infection, the results of which are most marked in the nervous system. The first stage in the pathological process is an acute interstitial meningitis, usually most marked on the anterior surface of the spinal cord. In the cord itself there occurs a hyperemia, and a collection of small round cells in the lymph spaces surrounding the vessels.

"In many places the cells are so numerous that they press on the lumen of the vessel and exert a mechanical effect in obstructing the circulation. Minute or extensive hemorrhages occur, and there is an extensive edema. These three factors, cellular exudate, hemorrhage, and edema, appear to be the primary reaction of the nervous system to the virus of infantile paralysis. Because the virus reaches the nervous system through the blood stream, the cervical and lumbar enlargements of the cord are most often affected, and the anterior horns more often than the posterior or the white matter, for in these regions the blood supply is most abundant.

"Although the process by which the vascular lesions affect the nerve cells is in a large measure a mechanical one, it is impossible to exclude the fact that the virus may exert some direct toxic action on these cells, but whether or not this is the case, many of the conditions may be explained by the circulatory disturbances and the exudate.

"The damaging effects, therefore, are to be attributed in part to direct pressure on the nerve cells by hemorrhages, edema and exudate, to which must be added the anemia following the constriction of the blood vessels. On account of this pressure, and anemia, the nerve cells degenerate and if the hemorrhage and exudate are absorbed soon enough, the cells may recover function, but if the unfavorable conditions have been prolonged too long, or are excessive, the nerve cells may go on to complete degeneration.

"The terminal stage in the pathological changes is represented by the replacement of the motor cells by focal scleroses due to the increase of neuroglia tissue. The lesions are analogous to focal fibroses or areas of scar tissue, due to an increase of connective tissue as found in any other organs. Shrinking occurs in severe cases. The destruction of spinal cells in any center naturally represents a loss of function of those cells, but the connections between the bundles of motor cells and the connections between muscles and the motor centers are so free and manifold that, unless the destruction has been very extensive, the possibility remains of establishing new connections between other motor cells and muscles."

This abstract from Lovett deals very thoroughly and concisely with the pathology that we have to face. Besides the immediate pathology we must also consider and treat the effects of this pathology if we hope to get satisfactory results. Consequently we must direct our treatment to two different factors. We must treat the pathology in the spinal cord, and we must treat the paralyzed muscles which are the result of this pathology.

In the spinal cord we must open up the afferent and efferent means of circulation; we must relieve the pressure that has been caused; we must increase the local metabolism carrying away the products of inflammation and bringing new fresh blood supply to the cord. The local fibroses need to be broken up and the old hemorrhages and exudates absorbed. The anemic condition caused by the pressure of factors which are interfering with a free circulation must be corrected, thus assisting nature in her effort to repair the damage that has been done and in the establishment of new connections between motor cells and muscles.

With this work to be done, we do not believe that there is any known therapy to compare with the use of diathermia. By this means we can reach the spinal cord with the most efficient form of heat that is known, the form that is generated right in the tissues themselves by their own resistance.

Besides the above use of diathermia the ionizing effect of the x-ray should be used also. Some may doubt the use of x-ray for this purpose, but the testimony of many reliable men—not quacks—bears out the fact that it works.

The next field of therapy must be that of the paralyzed muscles. Here we have again disturbances in circulation, atrophy of muscle and bone, loss of motor power and various trophic disturbances. Again diathermia offers the most direct form of therapy available to counteract the damage being done, to keep up the nutrition of the muscles involved and thus keep these parts that are suffering from trophic disturbances in as good and healthy a state as possible, until such time as nature may re-establish nerve impulses by the former path or by some indirect route.

Just a few words as to the various methods of technic would be worth consideration. One method is to lay the patient on the face on a very large electrode, and then to apply quite small ones along the spinal canal; thus pointing the current heat into the area involved. Another method used is to employ a bipolar effluve. That is, the patient is in contact with a large indifferent electrode, either held in the hands or applied to the body. The other electrode is a glass vacuum or mercury-coated glass electrode which is applied up and down the spine. The unipolar glass electrode technic does not seem to accomplish anything at all, but the bipolar method does.

Another method is to use the autocondensation pad with the patient lying face downwards, then applying the block tin electrodes along the spine.

It is well to use long periods of treatment and not too high a current and then to follow this with a light contracting current of some type when treating the paralyzed muscles. Patients will often complain after treatments with diathermia alone. If a contractile current of some form is used, it will drive out the excessive hyperemia and thus get a decided therapeutic effect by helping to get rid of the products which have resulted from stasis locally within the paralyzed muscles.

The general treatment of infantile paralysis by means of well-directed physiotherapy is without doubt the best possible form of therapy that is known at the present time. It aims directly at the causes and at the pathological resulting effects of the same.

Book Notices

DICTIONARY OF AMERICAN MEDICAL BIOGRAPHY. Lives of Eminent Physicians of the United States and Canada, from the Earliest Times. By Howard A. Kelly, M.D., LL.D., and Walter L. Burrage, A.M., M.D. Cloth. Pp. 1364. D. Appleton & Co., 35 W. 32nd St., New York, 1928.

A good collection of biographies of those who made medical history in America from the beginning. No one living after January 1, 1927, is included. This volume carries forward the "Cyclopedia of American Medical Biography" published in 1912, the 1920 edition of which was known as "American Medical Biographies." It comprises 2,049 sketches.

ELEMENTARY BACTERIOLOGY AND PROTOZOOLOGY. For the Use of Nurses. By Herbert Fox, M.D., Fourth Edition, Thoroughly Revised. Cloth. Pp. 242. Price $2.50. Lea & Febiger, 600 S. Washington Square, Philadelphia.

A very practical elementary textbook for nurses. The nature of micoorganisms and their relation to the world's economy are the chief things considered, with emphasis upon the manner of the passing of bacteria from one individual to another, their means of entrance into the body and mode of action after entrance. A few points might be handled differently, as for instance, the statement that serum sickness or anphylaxis will not occur if the serum is given very slowly or in fractional doses.

INDUSTRIAL NURSING. For Industrial, Public Health, and Pupil Nurses, and for Employers of Labor. By Florence Swift Wright, R.N. Cloth. Pp. 179. Price $1.50. The Macmillan Company, 66 Fifth Ave., New York. 1928.

This is a reissue of a very informative text on industrial nursing published in 1919 as one of Macmillan's series of textbooks on public health nursing. The principles of industrial nursing, the relation of the nurse to those about her, the work of the visiting nurse in industry, records and reports are among the things discussed.

PRACTICAL BIRTH CONTROL. Being a Revised Version of "Safe Marriage." By Ettie A. Hornibrook, with Preface by Sir William Arbuthnot Lane. Cloth. Pp. 53. William Heinemann, Ltd., 20 Bedford St., W. C. 2, London.

An unusually frank book whose author expresses more radical views than those usually put forward by advocates of birth control—at least in this country. To her "mind, there is no ethical difference between preventing an undesirable conception and interrupting an accidental pregnancy." She speaks favorably of trial marriage, sex friendships among the unmarried and sex freedom among the married.

MODERN MEDICINE: Its Theory and Practice in Original Contributions by American and Foreign Authors. Volume VI: Diseases of the Nervous System—Diseases and Abnormalities of the Mind. Edited by Sir William Osler, M.D., F.R.S. Re-edited by Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, Philadelphia, and Elmer H. Funk, Clinical Professor of Medicine, Jefferson Medical College, Philadelphia. Third edition. Cloth. Price $9. Pp. 964, with illustrations. Lea & Febiger, 600 S. Washington Square, Philadelphia, 1928.

This latest volume of a well known system of medicine takes up nervous and mental diseases and the nervous manifestations of syphilis, endocrine disorders and tumors of the nervous system. Its twenty-five chapters contributed by twenty of the leading clinicians, surgeons and neurologists of the English-speaking world, are clear, concise and thorough. Part I, devoted to diseases of the nervous system, is much more voluminous than Part II, on diseases and abnormalities of the mind.

THE PRINCIPLES OF ANTE-NATAL AND POST-NATAL CHILD HYGIENE. By W. M. Feldman, M.D., B.S., M.R.C.P., Senior Physician to St. Mary's Hospital for Women and Children. Cloth. Price, 25s net. Pp. 743, with 175 illustrations. John Bale, Sons & Danielsson, Ltd., 83-91 Great Titchfield St., London, 1927.

This book is a companion volume to that published several years ago by the same author on the Principles of Ante-Natal and Post-Natal Child Physiology. It is encyclopedic in character and written for the public in general as well as for the physician and child welfare worker. There are chapters on biometrics and vital statistics and excellent advice on the care of the prospective mother, nutrition, breast feeding, artificial feeding, clothing, exercise and sunlight. Numerous tables provide a vast amount of data which otherwise would not be readily available. A good book for a doctor who gives special attention to the care of children.

THE HAND AND THE MIND. By M. N. Laffan. Cloth. Pp. 96, with 8 illustrations. Price $2.00. E. P. Dutton and Company, 681 Fifth Ave., New York, 1928.

This book gives some new slants on hand reading, whatever we may think of that practice. The author believes that "the shape and markings of the human hand are related to the constitution of the mind, and, moreover, that changes in mental activties during life are registered by changes in the markings of the palm," and that the difference between the two hands is due to "a corresponding difference between the two hemispheres of the brain."

PERCIVAL'S MEDICAL ETHICS. By Chauncey D. Leake. Cloth. Pp. 291. Price $3.00. The Williams & Wilkins Company, Mt. Royal and Guilford Aves., Baltimore, 1927.

A very interesting history and discussion of medical ethics, edited by a Professor of Pharmacology who is not a doctor.

He says that when he asked Morris Fishbein about publishing a volume relating to the historical development of "medical ethics" he was told that it was unnecessary and of no significance for an understanding of the matter. This may be true for the medical profession, the author says, but the enlightened public is interested in certain aspects of "medical ethics" and will be better off for a knowledge of their origin.

He quotes with relish Professor Edward M. East's remark: "Since it is a kind of sacred writing to him, the young doctor doesn't appreciate the humor in terming a code of ethics that little guide to propriety issued by the American Medical Association, filled with trade-union rules designed to promote dignity and prosperity in the profession. It would not hurt him a bit to learn the private viewpoint of the layman in regard to the responsibilities of his profession."

This book outlines the development of the so-called "medical ethics" from the broad principles of ethics propounded by Hippocrates, down through the eighteenth century when the philosophical significance of law and order in nature became generally appreciated and men sought to establish similar immutable detailed and comprehensive laws for every phase of their activity, so that the current complicated system of medical etiquette—miscalled "ethics"—came into being.

Percival's code of "medical ethics" is given in full with the code of ethics as adopted by the American Medical Association in 1847, and the principles of medical ethics as adopted in 1903, and as revised in 1912, and down to date.

THE CONQUEST OF LIFE. By Dr. Serge Voronoff. Translated by G. Gibier Rambaud. Cloth. Pp. 201. Illustrated. Brentono's, 5th Ave. and 27th St., New York, 1928.

In this volume, Dr. Voronoff gives in form interesting to the general reader, his theories as to what can be done toward prolonging life and usefulness and also increasing the mental and physical output of animals and of men as a result of the grafting of interstitial glands. Many detailed case reports are given and discussed.

Regarding the opposition he has met in the medical profession, he says: "Did not the Paris Faculty of Medicine, moreover, for twenty years deny Pasteur's epoch-making discoveries? The senior members of the profession may still recall the violent attacks that were directed against this man of genius at the Academy of Medicine by the famous Professor Peter, the obstinate defender of consecrated errors. Every man who makes a discovery finds himself faced by a Professor Peter. It is only the name that is different."

Another thing he says which will find an echo in the heart of many an osteopathic physician is:

"In the medicine that sometimes lies in the great treatises—indispensable, nevertheless—in which professors repeat over thousands of pages what has been written by their predecessors without being able, usually, to verify all that which they bring forward at second hand. These professors, bearing the load of several centuries of recorded doctrine, have often no other criterion than the official

standing of preceding authors to justify them in placing faith in that which they set forth. The assertions of a chief of clinic of a hospital have to be taken into consideation; the affirmations of a learned professor must be cited; the work and the experimental results obtained by a professor are put forward as sacred dogmas which must not be questioned. If, by misfortune—and misfortunes are frequent in human nature—the illustrious professor quoted has committed errors, these are handed down from one generation to another in all the standard treatises. Students learn them in the medical schools, carry them with their medical diploma and find the greatest difficulty in getting away from them."

CRAWFORD W. LONG AND THE DISCOVERY OF ETHER ANESTHESIA. By Frances Long Taylor. Cloth. Pp. 237. Price $4.00. Illustrated. Paul B. Hoeber, Inc., 76 Fifth Ave., New York, 1928.

This is the story of the doctor who seems first to have used ether to produce surgical anesthesia, told by his daughter. It is a straightforward biography without bitterness for those who have claimed the credit for others.

Two of her observations of interest to those who have pioneered in our profession, are:

"It is only the old, old story of genius groping in the dark. Tyndall says: 'The greatest discoveries of Science have been made when man has left the region of the seen and known and followed the imagination by new paths to regions before unknown.'"

"To defy ignorance and superstition demanded an unusual degree of courage and indomitable will-power. These two qualities my father possessed, as everyone said who knew him, and many of these still living can bear witness."

WHY DIE? By Dr. Eugene Christian. Cloth. Pp. 353. Price $3.00. Little and Ives Co., New York City.

More than one hundred and fifty pages are given to menus, with which we find no fault. It answers a long-felt want of the physician for a readable, concise, practical work that will convince the patient of the need of thinking about his food intake. The ten lessons embodied in its pages bring out the importance of true foods—how they remove disease; the laws of digestion, assimilation and metabolism and how they control one's power of endurance; foods that carry vitamines with charts; menus for gaining or reducing weight; the business man and his food problem, showing the fallacy of "taking something" instead of removing the cause of disease. Lessons on the common diseases, constipation, diarrhea, arthritis, appendicitis with menus, round out the book into a very interesting one for the physician's office table. It is one on which the housewife will reap one thousand per cent on her investment. All the menus have been tested during Dr. Christian's long term of practice. These should appeal to everyone entering an osteopathic physician's office.

BETH HABERER.

State and Divisional News

OSTEOPATHIC CONVENTIONS

American Osteopathic Association, Des Moines, 1929, Program chairman, Dr. Chester H. Morris, Chicago.

Arkansas state convention, Little Rock, First week in June.

Eastern Osteopathic Association, Waldorf-Astoria, New York City, March 22, 23, 1929.

Missouri state convention, Columbia, Nov. 22-24.

New York state convention, Utica, Nov. 2 and 3.

CALIFORNIA

It is reported that a plan has been adopted by the state association to have speakers make circuits of the various groups in the state and that the president, Dr. Arthur T. Seymour, Stockton, made an official visit with Dr. Ernest G. Bashor, Los Angeles, to the Bay and East Bay societies' meeting, and to the Sacramento Valley society and the San Joaquin Valley society, the last of September.

Bay and East Bay Society

The second joint monthly meeting of the Bay and the East Bay Osteopathic societies was held in San Francisco, Sept. 28, addressed by Dr. Ernest Bashor.

Long Beach Osteopathic Society

The first meeting of the season was held Sept. 25 in the office of the president, Dr. Elmer Clark. Dr. Benjamin Hayman, Galveston, Texas, was on the program.

The committee chairmen were selected as follows:

Dr. Ellsworth Fleming, head of the legislative and hospital; Dr. Henry Miles, program; Dr. Ione Ingles, publicity.

Oakland—Osteopathic Physicians' and Surgeons' Club

Dr. James H. Bell was announced to lead the discussion on "The Success of Osteopathy in the Acute Infectious Diseases" at the semi-monthly meeting Sept. 27.

Sacramento Valley Osteopathic Association

At the regular meeting on Sept. 29 Dr. James E. Semple, president, presided. Dr. Arthur T. Seymour, Stockton, president of the state society, told of the work in the osteopathic unit in the Los Angeles General Hospital and Dr. Ernest G. Bashor spoke on obstetrics.

San Joaquin Valley Osteopathic Society

At the bi-monthly meeting on September 30, Drs. Seymour and Bashor spoke and the meeting was followed by a dinner presided over by Dr. Roy Moorehouse of Visalia.

COLORADO

State Society

The officers reported last month as having been elected for the Rocky Mountain Conference should have been given as the new officers of the state society. The conference itself does not have officers apart from the state organization.

The new officers of the Colorado Society are: President, Dr. H. E. Lamb, Denver; vice president, Dr. C. R. Starks, Denver; secretary-treasurer, Dr. R. B. Head, Denver; trustees, Drs. P. D. Schoonmaker, Colorado Springs, W. A. Seydler, Loveland, J. E. Zechman, Sterling.

Denver—Cortex Club

Dr. L. F. Reynolds reports that the Cortex Club was organized on June 12 with the following charter members: Drs. N. E. Atterbury, F. I. Furry, R. B. Head, R. M. Jones, H. E. Lamb, I. D. Miller, J. I. Morris, J. E. Ramsey, L. F. Reynolds, D. R. Starks, E. J. Willbanks, P. A. Witt and F. F. Woodruff.

The purpose of this club is threefold:

1. To foster a broader knowledge of the Rocky Mountain Osteopathic Clinic at the hospital and with a view to improving its facilities.
2. To promote a closer fellowship among the profession in Denver and in Colorado.
3. For the discussion of topics vital to the profession, particularly in regard to therapeutics and needed legislation.

Meetings are held every Tuesday at 12:15 at the Denver Athletic Club, 1325 Glenarm Place. Members are expected to participate in these meetings, presenting special papers from time to time as arranged by the program chairman.

The following are the officers: President, Dr. C. Robert Starks; vice president, Dr. N. E. Atterberry; secretary and treasurer, Dr. L. F. Reynolds; program chairman, Dr. Howard E. Lamb.

Visiting members of the profession while in Denver are warmly welcomed at the meetings.

Greeley

The osteopathic physicians of Colorado are holding frequent meetings in different parts of the state. On Sept. 22 they met in Greeley at 3 p. m., with a program published in advance as follows:

Dr. H. E. Lamb, president, Opening Address.
Dr. R. W. E. Newton, Response.
Dr. H. S. Dean, "Ambulant proctology"
Dr. M. C. Handley, "Acute cerebreal meningitis"
Mr. H. E. Mann, "Hospital case in Greeley"
Dr. L. E. Hillman, "Focal infection"
Dr. N. E. Atterberry, "Intrapelvic diagnosis"
Dinner—Dr. C. R. Starks, toastmaster.

ILLINOIS

Chicago

For the next year the C. O. A. plan to have each meeting preceded by a dinner and each speaker to talk on some aspects of diagnosis and to answer questions at the end of the lecture. At the October meeting Dr. Russell Peckham of Chicago College of Osteopathy spoke on "The Recognition of Unclassified Perversions of Sympathetic Nervous System Function."

Second District

Dr. R. B. Hammond, Rockford, reports that the Second District met at Dixon, October 4. Dr. George MacGregor of Chicago spoke on "Foods and Diets."

Dr. Hammond says "The other districts might well have Dr. MacGregor in his 'close up' talk on specific condition and the specific diet." He states that none but members of the state society are admitted to these meetings and that three-fourths of the osteopathic physicians in the district were present and all were members already or joined at that time.

It is reported that officers were elected as follows: Dr. E. P. Wright, Belvidere, president; Dr. J. B. Snyder, Fulton, vice president; Dr. S. E. Roberts, Belvidere, secretary.

Sixth District—West Division

A picnic meeting is reported from Jacksonville Sept. 20, with a discussion of various things planned for the coming year and particularly relating to clinic meetings.

Eighth District

A meeting was scheduled to be held in Centralia Oct. 10.

INDIANA

State Society

The annual convention was held in Rushville Oct. 17 and 18. The program as published in advance was as follows:

October 17, Morning

Dr. W. S. Grow "Legislation"
Dr. J. B. Kinsinger "State Board"
Dr. E. O. Peterson, president, Address
Dr. R. C. McCaughan, Delegate's report of Centennial convention.

Afternoon

Dr. John M. Hiss, "Bunions and Broken Arches"
Dr. Paul Van B. Allen, "Osteopathic Gynecology"
Dr. C. J. Gaddis, Selected

Evening

Banquet.
Round table discussions and technic
Dr. R. C. McCaughan, "Gall Bladders"
Dr. A. B. Caine, "Some Phases of the Diet Question"
Dr. D. Ella McNicoll, "Unusual Cases"
Dr. F. E. Magee, "Acute Tonsillitis."

October 18, Morning

Dr. M. E. Clark, "Queer Things in Obstetrics"
Dr. H. V. Halladay, "Why Osteopathy Works"
Dr. C. J. Gaddis, "Pneumonia, Including Bedside Technic."

Afternoon

Business Session
Dr. Frank H. Smith, "Endocrine imbalance"
Dr. H. V. Halladay, "Sacro-iliac lesion and its effects."

IOWA

Dr. C. N. Stryker, secretary-treasurer of the Iowa Society of Osteopathic Physicians and Surgeons, reports that the district societies in that state are working independently this year on their programs. He has written them as follows:

"Let me urge that each district immediately get into touch with Dr. Ray G. Hulburt at the A. O. A. Central Office, and enlist his assistance relative to newspaper items and publicity about your approaching district meeting. His committee is maintained for just this purpose, and costs you nothing. At least one or two items or stories should go into the newspapers of every community in your district where there is a practicing osteopathic physician. It helps to keep osteopathy before the public eye, and conveys the impression that our profession is alive and progressive. There should also be mention in each of these items, of the American Osteopathic Association convention being held in Iowa next year. But Dr. Hulburt will get this in nice shape for you if you will ask him.

"You should not fail to get something into the Iowa State Osteopathic Bulletin both preceding and following your meeting.

"Remember, publicity of the right kind, and lots of it, is the one way to make the people of Iowa 'Osteopathy conscious.'

Sixth District

Dr. L. L. Wade, Winterset, secretary-treasurer of the Sixth District, reports that a meeting is to be held in Winterset, Nov. 2 and there will be an all day meeting with a chicken dinner and a good osteopathic program.

Winterset

A group of osteopathic physicians and their families from Des Moines recently drove to Winterset and enjoyed a picnic dinner. There were talks by Drs. H. J. Marshall, Avis Payne and S. H. Klein.

KANSAS

Cowley County

The first meeting of the season was held at Dr. P. W. Gibson's office, Winfield, Sept. 27. The discussion was led by Dr. J. O. Strother.

Topeka

The Topeka Osteopathic Society was scheduled to meet for a dinner and program Sept. 27. Dr. D. A. Bragg is president.

Verdigris Valley

The September meeting was held on the 11th at the office of Dr. Earl Cowman in Independence. There was a report on the Kirksville convention and Dr. H. S. Wiles, Neodesha, told of the postgraduate course.

KENTUCKY

Jefferson County

Dr. L. E. McCurdy was elected president of the Jefferson County Osteopathic Society at the regular meeting on Sept. 11. Other officers elected were:

Vice president, Dr. L. A. Anderson; secretary-treasurer, Dr. Ella Shifflett; directors, Drs. Nora Pherigo Baird and Evelyn R. Bush; Program committee, Drs. S. G. Bandeen, Nora Prather, A. B. Johnson; Membership committee, Drs. N. H. Wright, R. H. Miller, Philip Cary; Professional affairs, Drs. Carl J. Johnson, C. W. Barnes, A. B. Patterson and H. H. Carter; Clinics, Drs. E. W. Patterson, L. B. Montgomery and J. O. Day

MAINE

State Society

The annual convention of the state society was scheduled to meet in Bangor, Oct. 6. The speakers and their topics as published in advance were as follows:

Dr. Nora Brown, Waterville, "The house of delegates"
Dr. A. E. Chittenden, Auburn, "The Centennial celebration"
Dr. Hester Brown, Belfast, "The American Osteopathic Association convention"
Dr. M. B. Fox, Farmington, "The postgraduate course"
Dr. N. M. Kellet, Auburn, "Eye, ear, nose and throat"
Dr. W. C. Brown, Waterville, "Surgery"
Dr. Rachel F. Manchester, Bangor, "Foot Technic"
Dr. G. A. Sanborn, Lewiston, (a) "Physiotherapy; (b) "Laboratory diagnosis."

A banquet was planned for the evening with Dr. J. P. Kent, Rockland, toastmaster, and Dr. C. B. Doron, Bangor, chief speaker.

Eastern Maine

The first fall meeting was held in Bangor at the office of Dr. R. L. Wooster, Sept. 11. Plans were discussed for the entertainment of the state society which met at Bangor, October 6.

MICHIGAN

State Society

The state convention was scheduled to meet in Detroit, Oct. 31 and Nov. 1, with a program including the following:

October 30

Preconvention trip to the Ford Airport.

October 31

Morning

"Technic," Dr. W. A. Schwab, Chicago.

Afternoon

"Urology and Syphilology," Dr. J. P. Schwartz, Des Moines.

"The Legal Situation," Attorney O. L. Smith, Detroit.

Evening

Banquet.

Dancing

November 1

Morning

Nose and Throat Clinic, Detroit Osteopathic Hospital. Dr. C. Earl Miller, Bethlehem, Pa.

Afternoon

Educational Film on Biologics, Parke Davis & Co.

Battle Creek

A meeting was held on Oct. 9, addressed by Drs. Hoyt Taylor, Lansing, and E. A. Ward, Saginaw, president and legislative chairman of the state society.

Detroit

The first meeting of the season was held in the nurses' home of the Detroit Osteopathic Hospital, Sept. 19. Drs. C. B. Stevens and E. G. Sluyter told of plans for the coming state convention and Dr. George B. F. Clarke demonstrated his methods of deep breathing.

Dr. Bernardine Schefneker was appointed chairman of a committee to investigate the question of establishing a clinic.

Oakland County

Dr. C. Burton Stevens, Detroit, was advertised as the chief speaker at the regular meeting of the Oakland County society in Birmingham, Oct. 11. Dr. G. R. Norton, Birmingham, was in charge.

MINNESOTA

State Society

Dr. S. R. Stover, Bemidji, has been appointed president of the Minnesota Osteopathic Association in place of Dr. C. E. McNaught, who has resigned and located outside the state.

It was decided to hold two state meetings a year in addition to the regular annual convention. One is to be held north and the other south of the twin cities. The first meeting of the kind was held in Owatonna, Oct. 13.

MIDDLE ATLANTIC STATES

The program of the 9th annual convention of the Middle Atlantic States Osteopathic Association was published in THE JOURNAL last month. Officers were elected as follows:

Dr. F. R. Heine, Greensboro, president; Dr. T. T. Spence, Raleigh, vice president; Dr. L. C. McCoy, Norfolk, secretary-treasurer; Dr. Felix D. Swope, Washington, sergeant at arms.

The convention next year will be held in Raleigh, N. C.

MISSOURI

Buchanan County

On Sept. 14, Drs. J. S. Woodruff and O. G. Weed were appointed to take charge of the next monthly clinic at the Mercy Hospital. Drs. Weed, M. L. Hartwell and T. O. Pierce were to have charge of the scientific programs held in connection with the weekly luncheons during the next month.

Central District

Dr. Benjamin S. Jolly, Vandalia, publicity chairman, reports that the September meeting was held in Mexico on the 20th, with an attendance of 18. The state president, J. H. Hardy, Columbia, reported on the clinic held at the state fair, the first one of the kind in the state. Dr. R. B. Baize, Laddonia, presented a paper on cholera infantum and a case report on "screw worm" infecting the sinuses. Dr. C. B. Ewing presented a paper on hay fever.

Four-County Osteopathic Society

The Four-County Osteopathic society was organized at Cameron, Oct. 4, including osteopathic physicians from the counties of Davies, Caldwell, DeKalb and Clinton. Dr. Foy Trimble, St. Joseph, spoke on "The basal metabolism test: Its indications and advantages in diagnosis and treatment of goitre." Dr. W. E. Hartsock of St. Joseph, spoke on, "Disease of the nose and accessory sinuses." Officers were elected as follows:

Dr. C. S. Compton, Cameron, president, and Dr. M. B. Bailey, Gallatin, vice president.

Greater Kansas City Osteopathic Society

Mr. E. V. Whittinger, vice president of the Income Security Corporation, South Bend, Ind. was the principal speaker at the dinner of the South Bend Osteopathic Society, Sept. 18.

Southwest Missouri District

The quarterly meeting was held at Monett, Sept. 20. The program was given over chiefly to reports and discussions of the A. T. Still Centennial convention. Dr. M. R. Maxwell, Mt. Vernon, presided, and among the speakers were Drs. O. L. Dickey, Joplin, Clyde B. Spangler, Joplin, T. M. King, Springfield, and M. S. Slaughter, Webb City.

West Central Missouri Society

Dr. J. L. Allen, Higginsville, was host on Sept. 20 to the West Central Missouri society at a chicken dinner. Dr. Frank P. Walker of the Mercy Hospital, St. Joseph, was the principal speaker. Dr. H. Maude Reiff, Marshall, was also on the program, and there was a round table.

NEBRASKA

State Society

Dr. Geo. M. Laughlin, Kirksville, was one of the headliners at the osteopathic convention held in Lincoln, Sept. 26. Others were Drs. H. V. Halladay of the Des Moines Still College, H. R. Bynum, Memphis, Tenn., who gave a course in foot and ankle technic; Jenette H. Bolles, Denver, who conducted a child health conference, and Fannie Carpenter, Chicago, who gave a series of lessons on public speaking. Officers were elected as follows:

Dr. Harold R. Shickley, Lincoln, president; Dr. Harold Magoun, Scottsbluff, vice president; Dr. H. E. Litton, Nebraska City, secretary; Dr. Angela McCreary, Omaha, treasurer.

Three candidates for the state osteopathic board were nominated. From the list the governor will select one to fill a vacancy to occur this winter. The nominees were, Drs. J. R. Bancroft, Hebron; George Widman, Lexington and Dr. Anton Kani, Omaha.

NEW ENGLAND STATES

The twenty-fifth annual Fall festival of the New England Osteopathic Association was scheduled for Northampton, Mass., on Oct. 13.

NEW JERSEY

State Society

The October meeting was held at Newark, Oct. 6. The program as published in advance included:

Dr. E. G. Drew, Philadelphia, "Experiences in Vienna"

Dr. Arvid E. Valdane, New York City, "Technic"

Dr. Gordon P. Losee, Westfield, "Technic."

NEW YORK

Greater New York

The September meeting was held the evening of Sept. 22nd.

Southern Tier Osteopathic Society

The October meeting was held on the 10th at the home of Dr. J. A. Underwood, Elmira. The retiring president, Dr. J. M. Diehl, gave an address, reviewing the activities of the society for the year. Officers were elected as follows: Dr. H. J. Pettit, Elmira, president; Dr. Leonard J. Neal, Mansfield, Pa., vice president; Dr. Walter J. Novinger, Elmira, secretary-treasurer; Drs. J. M. Diehl, C. H. Couch and George Hitchcock, trustees.

Western New York Society

The first meeting of the season was held in Buffalo, Oct. 6. There was a paper on the treatment of hay fever and asthma. The new officers of the society were installed. They are:

Dr. Grace Stauffer, president; Dr. Edward P. Canberry, vice president; Dr. Edith Dovesmith, Niagara Falls, treasurer.

NORTH CAROLINA

State Society

The annual business session was held in connection with the Middle Atlantic States Convention at Washington, D. C., Oct. 5. Officers were elected as follows:

Dr. O. N. Donnohoe, Asheville, president; Dr. Ella Hardin, Fayetteville, vice president; Dr. F. R. Heine, Greenesboro, secretary-treasurer.

OHIO

First District

Dr. W. L. Billings, Toledo, secretary of the First District society, reports a business meeting, Oct. 1. Legislative questions were discussed and trustees elected as follows:

Dr. P. Black, Toledo, for one year; Dr. H. Long, Toledo, for two years; Dr. C. D. King, Fremont, for three years.

These, with the officers of the district association, constitute the board of trustees. Meetings are held the first Monday evening of each month.

Fourth District

The October meeting was held in Columbus Oct. 4. Dr. M. F. Hulett discussed "Diagnosis and treatment of functional spinal curvature."

Dr. L. C. Scatterday, Worthington, was elected secretary in place of Dr. Arthur S. Hulett who has moved from the state.

Akron District

A meeting was held at Barberton, Sept. 27, addressed by Dr. Markwith, county health officer, who spoke on "General health conditions and early diagnosis of infantile paralysis."

Cleveland District

Dr. Chas. A. Purdom, secretary-treasurer, reports the first meeting of the season was held Sept. 17. Following the dinner there was an address by Dr. D. D. Roush, Columbus, on "The surgical eradication of pyorrhea." The second meeting of the year was held Oct. 1. Following a short business meeting with a report from Dr. Keckler as to progress of the state organization and legislative plans, there was a symposium on "Diathermia" by Drs. R. H. Singleton and C. A. Purdom.

The Thursday noon luncheons which were organized last spring are well attended and visiting osteopathic physicians are urged to attend at the Hotel Winton.

Columbus Society

There was a meeting in Columbus on Thursday evening, Oct. 4.

Lorain and Erie County

Meetings were held in Elyria on Sept. 27 and in Sandusky on Oct. 18.

Official Definition of Osteopathy

In the new constitution of the Ohio Society of Osteopathic Physicians and Surgeons adopted last May, section 2 reads as follows:

> "The terms 'osteopathy' and 'osteopathic' as used herein are distinguishing words adopted by that school of medicine and surgery which teaches that correct structural adjustment of the body mechanism is the most important factor in restoring and in maintaining normal function and embraces all scientific and generally approved physical, chemical, biological and psychological principles."

OKLAHOMA

Oklahoma City

Dr. O. G. Weed, St. Joseph, Mo., was special guest of the evening when the osteopathic physicians of Oklahoma City held their annual picnic on Oct. 3.

PENNSYLVANIA

Allegheny County

A meeting was held Oct. 6 in the offices of Dr. W. E. Spill, Pittsburgh. Dr. Frank Goehring talked on "How I meet my patient," followed by a round table discussion.

Northeast District

A meeting was held Sept. 22 in the office of Dr. F. L. Bush of Wilkes-Barre. Officers were elected as follows:

Dr. G. G. Micks, president, re-elected; Dr. Adams, vice president; Dr. F. L. Bush, secretary; Dr. Mabel Gibbons, Scranton, treasurer.

Philadelphia

The first meeting of the season was held Thursday, October 25, and the program, as published in advance included:

"Eye strain," Dr. Jerome M. Watters, Newark, N. J.

"Development of the uterus and the pathology following maldevelopment," Dr. Edward Drew, Philadelphia.

Centennial Anniversary at Kirksville, Missouri, Dr. David Pennock, Philadelphia.

Dr. William Nicholl was to make a report on procuring green automobile emblems for physicians' cars.

VIRGINIA

The annual business session was held in connection with the Middle Atlantic States convention at Washington, D. C., October 5. Officers were elected as follows:

President, Dr. H. S. Beckler, Staunton; vice-president, Dr. H. S. Liebert, Richmond; secretary-treasurer, Dr. Gena L. Crews, Danville.

WISCONSIN

Milwaukee District

The first meeting of the season was scheduled for October 4, at the Empire Bldg.

CANADA

Ontario—Quebec

Good newspaper space was given in many parts of Canada to the convention at Ottawa, September 27, where the Ontario association acted as host to the Quebec profession.

The question of the right of osteopathic physicians to use the title "doctor" in Ontario, came up for discussion and remedial legislation was urged. Dr. Milton H. Pettypiece was quoted as saying:

"It is felt by the association that no school of healing has any right to monopolize the term 'Doctor,' and any legislation taking away an osteopathic physician's title is class legislation. It is absolutely unfair to members of the profession to be barred from the use of the title."

Dr. Hubert Pocock said that there were some seven hundred sufferers from epilepsy in the institutions of Ontario, but there were probably at least 10,000 victims of the disease in more or less serious form in the province. It is regrettable, he said, that there is no regular clinic for the treatment of these cases, most of which can be relieved by osteopathy, if taken in time.

Dr. D. L. Clark, Denver, addressed the convention. The Toronto *Globe* published a lengthy interview with Dr. Clark as he passed through, in which he was quoted as saying:

"We are body mechanics and study the body the same as electrical mechanics study electricity. We become familiar with the body the same as the engineer becomes familiar with his engines. We study the human body from a mechanical point of view. My own life was saved by an osteopathic physician when medical men claimed that I would die, and though I had a wife and family, I decided to study the profession myself. Today I am not only an osteopathic physician, but one of the profession's staunchest supporters."

Ontario Study Club

Dr. Edgar D. Heist, Kitchener, has submitted the prospectus for the fifth annual course of the study club for Ontario. Each course runs from ten to fifteen meetings. The course for this season's work is made up of studies of the alimentary canal.

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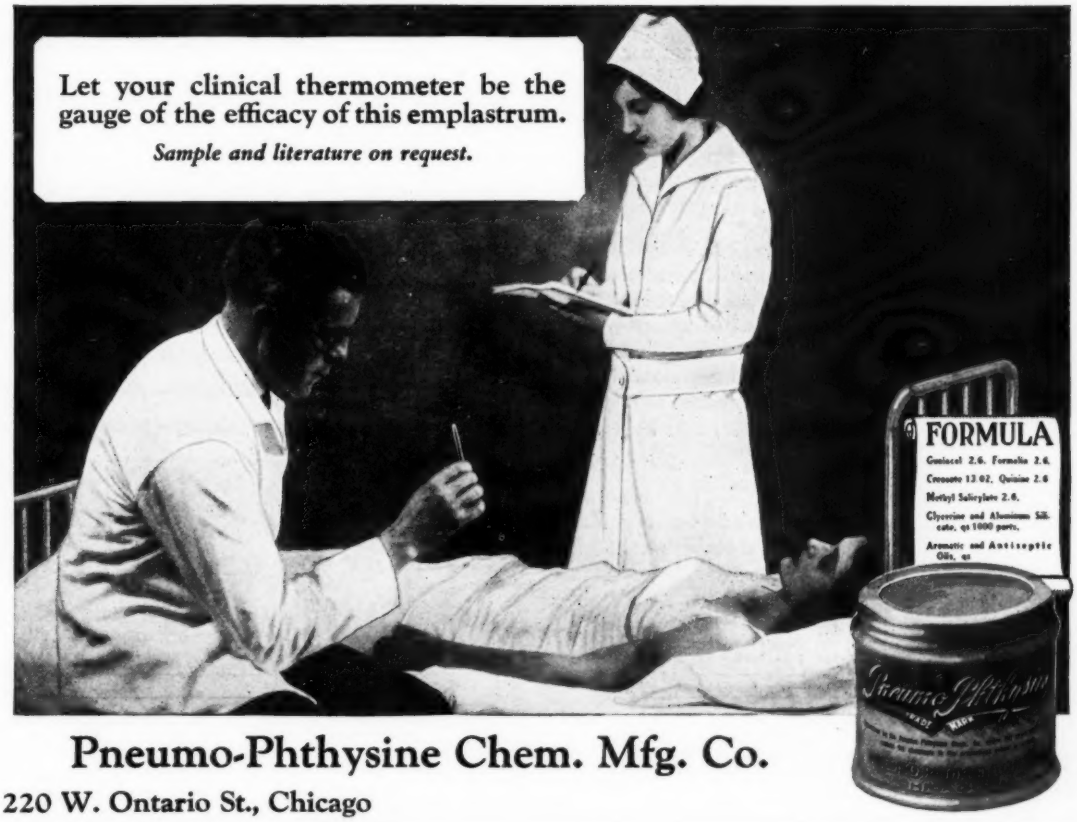
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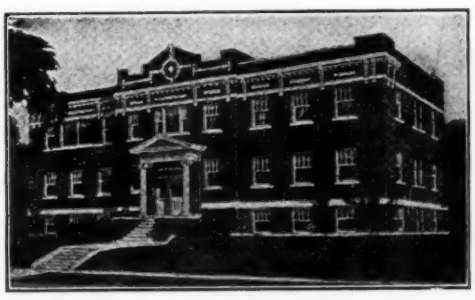

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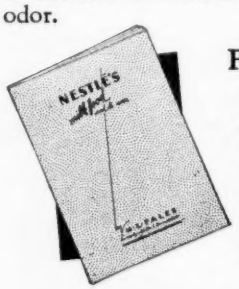

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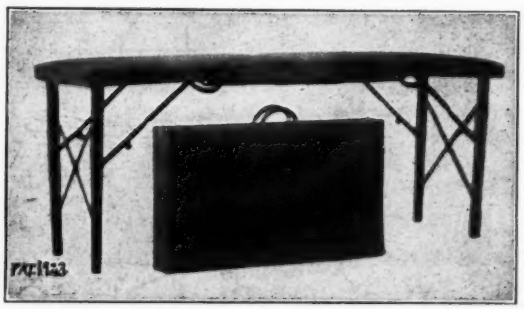

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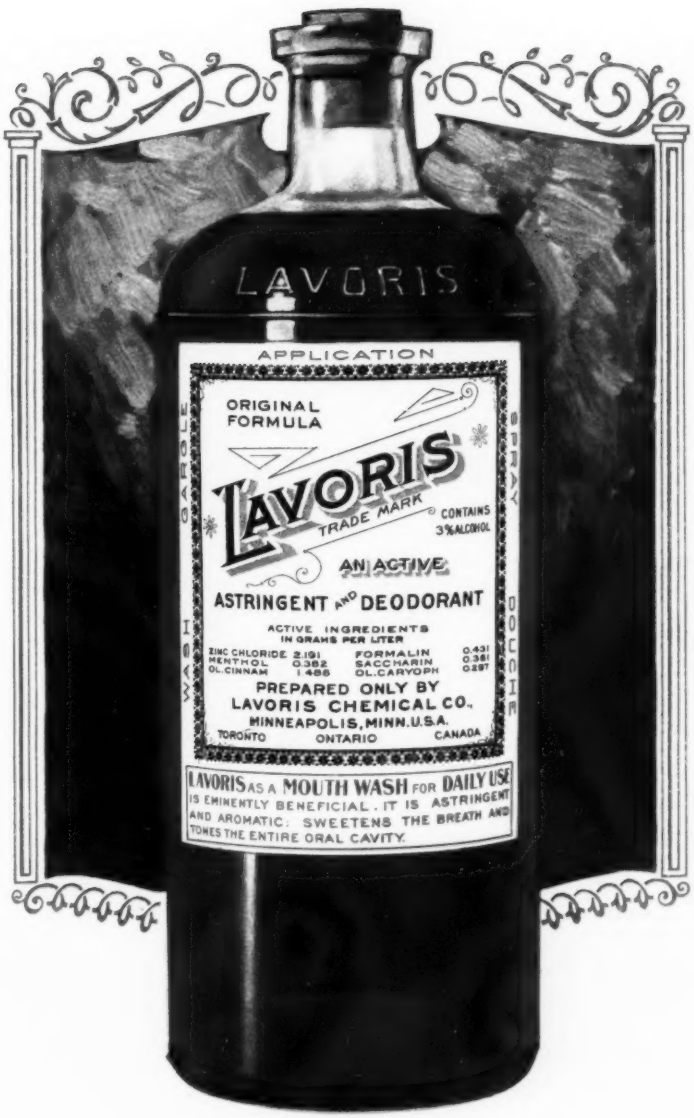

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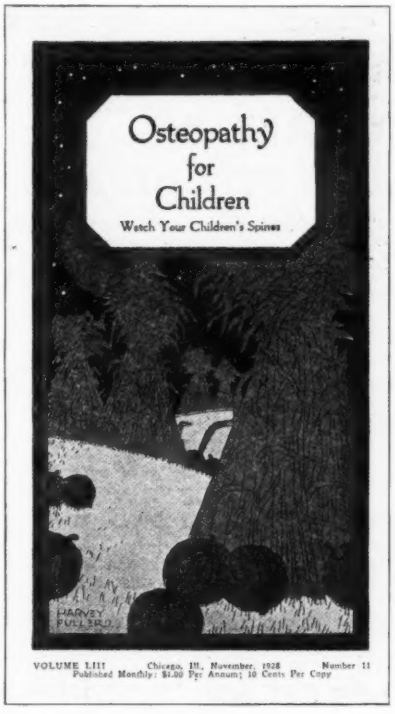

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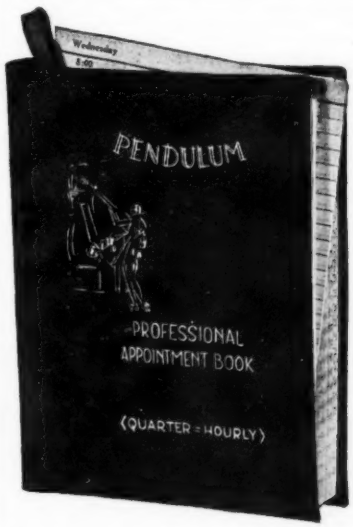

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Dr. Stanley M. Haley's address was given in the October Journal as Kansas City, Kansas, instead of Kansas City, Missouri. The street address is 9th and Prospect.

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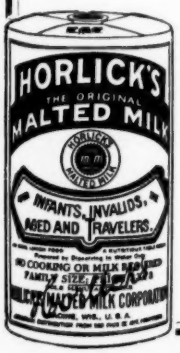

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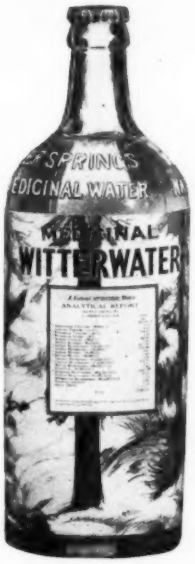

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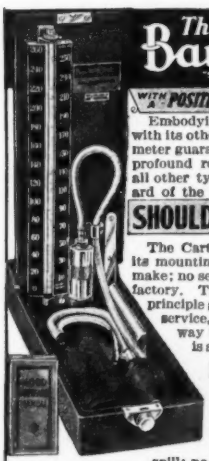

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